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HYPERPARATHYROIDISM*

FRED W. RANKIN, M.D.

Lexington, Kentucky

Hyperparathyroidism, a recently recognized clinical entity occurring usually in adults, more often in females than in males, and running a course of years rather than months, is characterized by skeletal changes, renal and gastrointestinal symptoms, alterations in the metabolism of calcium and phosphorus associated with hypercalcemia, hypophosphatemia, and hypercalciuria, and in addition, by radiologic signs, chiefly decalcification and cyst formation.

Ten years ago knowledge of the functions and dysfunctions of the parathyroid glands was extremely sketchy. Their physiologic action was quite inaccurately understood and the fact that they were associated in some way with calcium metabolism, and that postoperative tetany developed when they were injured or removed in the course of operations on the thyroid gland, were the main facts recognized.

However, today accurate information of the clinical course of hyperparathyroidism, its experimental reproduction in animals, and the successful cure or arrest of lesions caused by the overproduction of parathormone by abnormal parathyroid tissue, are no longer considered unique.

A more or less extensive literature on hyperparathyroidism is rapidly developing and increasing interest is being manifested in the various phases of the disease. In 1891 von Recklinghausen described under the term "osteitis fibrosa cystica" a condition of deformity and softening of the bones which was associated with certain reddish-brown tumors. The marked decalcification which softened the bones to an almost cartilaginous state differentiated it from osteomalacia as the characteristic pathological finding of the disease. Fibrous tissue was noted to replace the bony material,

rarefaction of the cortex was present, and cysts and giant cell tumors were observed.

Following von Recklinghausen's publication of the symptomatology and pathology of this clinical entity, Askanazy, in 1904 published the autopsy findings of a case of "osteitis fibrosa cystica" associated with a parathyroid tumor. Three years later Erdheim's report of three cases of osteomalacia associated with parathyroid tumors appeared, and subsequently the literature began to be dotted with more than an occasional case report. In 1925 Hoffheinz reviewed forty-five reported cases of demonstrable enlargement of the parathyroid glands. Skeletal changes were noted in twenty-seven of these cases, "osteitis fibrosa cystica" in seventeen, osteomalacia in eight, and rickets in two. Recently Gutman, Swenson, and Parsons in a stimulating article appearing in the Journal of the American Medical Association, correlated data on 115 published cases of hyperparathyroidism, eighty-six of which were females and twenty-nine males.

The disturbance in chemical phenomena associated with hyperparathyroidism apparently was first noted in 1912 by Jacoby and Schroth who detected excessive urinary excretion of calcium by a patient suffering from this disease. About the same time Greenwald noted a relationship between parathyroid glands and the metabolism of phosphorus, finding markedly decreased excretion of the latter by parathyroidectomized dogs. MacCallum and Voegtlin demonstrated the fall of serum calcium in parathyroidectomized dogs and the relief of symptoms of tetany by the administration of calcium salts.

A better understanding of the physiology of the parathyroid glands was markedly forwarded by the work of many observers, particularly Hunter, Aub, Collip, and Hanson. A great impulse to the study of these glands came when Hanson in 1924, and Collip in 1925, discovered an active parathyroid extract, parathormone. Collip demonstrated that it was possible to elevate the serum calcium in para-

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thyroidectomized dogs by the administration of this hormone. Indeed, he was able to produce, by repeated administration, hypercalcemia associated with many of the clinical symptoms of hyperparathyroidism.

Hunter and Aub both demonstrated that when para-thor-mone was administered to patients suffering from chronic lead poisoning, the level of serum calcium was only slightly elevated; yet there was a rise in the excretion of urinary calcium to several times the normal level. It now appears to be satisfactorily settled that after the first administration of para-thor-mone, there is a fall of serum phosphorus as well as an increase in the excretion of phosphorus, but that the excretion of calcium and the increase of serum calcium are not so prompt.

In addition, clinical features of generalized "osteitis fibrosa cystica," with the exception of the bony lesions demonstrated by x-ray, have been produced experimentally by the administration of para-thor-mone. After the association of bony dystrophy and the other clinical symptoms of osteitis fibrosa had been established as being associated with tumors of the parathyroid glands, surgical extirpation was undertaken, first by Mandl in 1926. In this case the neck was explored with the demonstration of a parathyroid tumor, which was removed. Subsequently, a disappearance of the bone pain occurred shortly with an accompanying marked fall in the urinary calcium excretion. The progress of the disease was definitely checked.

In this country Barr, Bulger, and Dixon reported the first case of hyperparathyroidism associated with bony lesions, in 1929, and subsequently in the same year, Wilder reported a second case which I operated on December 17, 1928, removing a parathyroid tumor from the right inferior pole of the thyroid gland. In the succeeding years interest in the subject of the parathyroid glands developed enormously and Ballin of Detroit, in 1931, reviewed before the American Surgical Association, forty-five parathyroidectomies done on his service. This series included not only tumors of the thyroid glands which were operated upon for osteomalacic conditions, but the removal of normal parathyroids for other disorders.

Parathyroidectomy for ankylosing polyarthritis was advocated in 1925 by Oppel and Ssamarin who reported seventy such operations for this disease. Leriche following this lead, but being more conservative in his selection of cases, performed a number of parathyroidectomies for

this same lesion. Later, Ballin reported sixteen operations for arthritis.

The acceptance of the diagnosis of hyperparathyroidism in these cases in light of the follow-up studies and the laboratory data upon which the diagnosis was made, cannot be accepted without reservations. In Oppel's work, no metabolic studies were done and the diagnosis was made upon single determinations of serum calcium, nor was there any dietary control. Recurrence of symptoms in some of these cases likewise occurred rapidly. Leriche recommended that where the parathyroid body could not be found on exploration, ligation of the inferior thyroid artery be performed to insure a "physiologic parathyroidectomy." My experience with ligation of one or both inferior thyroid vessels in thyroidectomy to control bleeding impresses me with the free anastomosis between them and the superior vessels because of the failure of tetany ever to develop following ligation of both inferior thyroid arteries under these circumstances. Again, a better knowledge of the anatomy and location of the parathyroid glands urges that this is a physiologically unsound problem, many parathyroid glands being situated so as to receive blood supply from the superior thyroid vessels or even from other vessels of the neck and mediastinum.

This inclination to extend the scope of cases selected for parathyroidectomy led Ballin to include several additional types: first, Padgett's disease; second, the ankylosing arthritic type; third, the juvenile type, and fourth, the myasthenic type.

Certainly it is far from being settled at present that Padgett's disease is the same as "osteitis fibrosa cystica," and the tendency among surgeons is not to include this variety. The juvenile type of which Ballin reports three cases, is the entity formerly regarded as osteochondroma and the experience is too limited to accept this group unqualifiedly.

The myasthenic type which simulates myasthenia gravis, muscular atrophy, et cetera, likewise is not sufficiently demonstrated yet, I think, to understand the exact relationship, if any, to hyperparathyroidism.

By and large, it is evident that after observation of the clinical syndrome and experimental data of osteitis fibrosa, the assumption that disturbances of the parathyroid gland are responsible for these other bony ailments is inconclusive, and that the removal of normal parathyroids, or so-called hyperplastic thyroids has not given

the satisfactory end-results anticipated.

Churchill who has had wide experience in this particular field, sums up the question of hyperplasia of the parathyroid body in producing symptoms as follows: "A diffuse hyperplasia of all of the parathyroid bodies may exist in disease states associated with a low serum calcium such as osteomalacia, rickets, and senile osteoporosis. According to Albright, this is presumably a compensatory mechanism and is not usually associated with an elevation of the serum calcium. Diffuse hyperplasia of the parathyroids associated with hyperparathyroidism, in other words a state of affairs analogous to Grave's disease of the thyroid, has not as yet been recognized as a disease entity."

SYMPTOMATOLOGY

A typical syndrome now recognized as hyperparathyroidism is accurately diagnosed in the majority of instances by standards of criteria which usually revolve around the following: First, a prolonged history of skeletal pain and muscular weakness confining the patient to bed, and frequently associated with one or more fractures; second, definite roentgenological evidence of general bony decalcification involving numerous bones, and frequently the entire skeleton; third, normal or elevated amount of calcium in the blood serum associated with increased excretion of calcium giving a negative calcium balance; and fourth, normal or decreased phosphorus in the blood serum with excessive excretion of phosphorus resulting in a negative phosphorus balance. Additional secondary findings such as general myotonia, anemia, loss of weight, gastro-intestinal symptoms such as anorexia, cramping, nausea, vomiting, and not uncommonly polydipsia or polyuria and associated nephrolithiasis are frequently encountered. The muscle weakness and pain are of more than passing importance since they are severe in their manifestations and extend over a long period of time. Usually the patients are bedridden and have the general appearance of victims of a wasting, chronic, long-continued disease. In one of my cases the symptoms had persisted over four years, and in frequent other reports found in the literature two or three year periods are not uncommon. Parathyroidism is the antithesis of tetany. It is caused by an overproduction of parathormone by abnormal parathyroid tissue.

The pathology which involves the bones and the picture which is most characteristic of the

disease gives rise to many secondary symptoms. As the deformity of the long bones increases, and general wasting becomes evident, there is a diminution of the height of the patient which may be called Ballin's sign since he lays great stress on it. They become stooped, the lower ribs approach the flattened-out-pelvis, the spine becomes bowed, the vertebrae become flattened-out and cause pressure on the intravertebral nerves, and fracture occurs frequently in the long bones.

With the demineralization of the bony skeleton, there appears an increased excretion of calcium in the urine as well as a high concentration of serum calcium, (normal, 8-11 mgs., parathyroidism, 12-20 mgs.). Even in the higher readings, however, there may be disease when hypercalcemia is temporarily or continually absent. One agrees with Ballin who made the first observation that the absence of hypercalcemia does not exclude the diagnosis of hyperparathyroidism in the presence of other symptoms.

The concentration of phosphatase in the blood plasma is elevated in hyperparathyroidism. This enzyme plays some specific role in the maintenance of calcium and phosphorus in the tissue.

Perhaps the most important findings in the diagnosis of hyperparathyroidism are the almost pathognomonic data obtained by Röntgenograms. The typical radiologic evidence is that of generalized osteoporosis, cystic lesions, and deformity. Attention has been called by radiologists to the characteristics of this osteoporosis which is miliary or granular in appearance. The plates appear as though they were undeveloped. The most characteristic picture is that of the skull bones apparently. In addition, the bone trabeculae and cortical bone are thinned, and areas of subperiosteal absorption are seen in some of the long bones.

It is necessary to differentiate hyperparathyroidism from a number of diseases, mainly, multiple myeloma, metastatic bone malignancies, dietary deficiencies, osteomalacia and some types of osteoporosis associated with chronic steatorrhea and Padget's disease. It should be considered as an etiologic factor in diseases of the bone which are associated with spontaneous fracture or swelling and grave deformity. Obscure cases presenting renal symptoms or unexplainable asthenia, or persistent bone pains frequently are explained on the basis of hyperparathyroidism. Certainly their exclusion usually

is not difficult if one takes into consideration the clinical symptoms and the history, the x-ray studies of the bones, and the chemical estimates of serum calcium and phosphate.

TREATMENT

The removal of parathyroid adenomas for the symptomatology common to osteitis fibrosa is followed generally by as spectacular recovery as one sees from subtotal thyroidectomy for exophthalmic goiter. Technically, the procedure usually is not difficult, although occasionally search for the parathyroid gland or tumor is extraordinarily difficult and leads one into exploration of the retrosternal areas, the retro-tracheal zone, and behind the deep fascias of the neck.

The parathyroid glands described in most of the old anatomies as being four in number and lying one at each pole of the thyroid gland frequently do not, in my experience, conform to these standard locations. To Terry and his associates we are indebted for a great deal of information on their anatomical location, information which in the course of thyroidectomy is extremely valuable in the preservation of these glands and in avoidance of postoperative development of tetany.

Terry showed that frequently the two upper parathyroids lie along the course of the superior thyroid vessels and on the anterior surface of the thyroid gland. Occasionally the parathyroids are situated in the substance of the gland itself, and less frequently they are found retro-tracheal and substernal. In the first case of parathyroid tumor which I operated upon, I found the gland easily because it was situated in the classical position at the inferior pole of the right lobe of the thyroid. In the second case which I did, only after considerable difficulty was the parathyroid tumor located between the trachea and the esophagus. I had made a careful search of all four poles of the thyroid gland without locating either a parathyroid tumor or a parathyroid gland. Then the right inferior thyroid vessel was ligated and the gland rotated mesially. This brought into view a bluish encapsulated tumor about the size of a small olive and situated between the trachea and the esophagus. It proved to be a typical thyroid adenoma, the resection of which was followed by recovery.

Churchill has reported a most interesting and unusual case of intrathoracic tumor which he resected. Recently Walton reported a case upon

which he operated the second time searching for a parathyroid tumor. After incision of the deep cervical fascia, he removed two parathyroid tumors, one lying behind the esophagus, and the second one in the posterior mediastinum in front of the body of the second and third thoracic vertebrae.

The question of multiple tumors is a point of importance which should always be borne in mind, and which this case emphasizes. In a review by Hunter of thirty-two cases of hyperparathyroidism, in twenty-one operated upon, one parathyroid tumor was removed, and in two cases, two parathyroid tumors were removed at operation. In this report, in addition, no parathyroid tumors could be found on examination in four cases, and in the other five cases operation was performed in four, but the tumors were found at necropsy, one in three cases, and two in another. An obvious correlary is that the possibility of multiple tumors should always be kept in mind when the exploration is negative, for there is the possibility that the surgeon is overlooking a tumor unless he has carried his search into the anterior and posterior mediastinal spaces, as well as under the deep cervical fascia.

The position of the tumor and its size, the musculature of the neck, and other anatomical factors operate together to make it often very difficult and usually impossible to palpate the tumor in the neck before operation. I have seen only one parathyroid tumor which could be palpated prior to operation and that was located at the right lower pole of the thyroid gland and felt very much as an adenoma of the thyroid gland ordinarily feels.

The great care which is exercised in the resection or removal of these parathyroid tumors is necessary in order to avoid injury to the recurrent laryngeal nerve, frequently, perhaps more often than not, where the tumor does not present itself quickly at the beginning of the exploration, one finds it necessary to ligate one or both of the inferior thyroid vessels in order to mobilize the gland sufficiently to search in the retro-tracheal, deep cervical, and substernal spaces. Such ligation of the vessel usually should be undertaken after exposure of its origin from the thyroid axis, as well as a careful demonstration of its relationship to the recurrent laryngeal nerve.

Usually immediate relief of symptoms follows parathyroidectomy. The calcium returns to normal quickly, but occasionally falls to a

subnormal level with evidences of a mild tetany. This is controlled by the administration of para-thor-mone, calcium salts, and irradiated ergosterol. This, likewise, calls attention to the point Stone brought out that perhaps in operations for parathyroid tumors resection of the tumor rather than the removal of the whole is desirable to prevent the development of tetany. The suggestion is a sensible one since in the early thyroid surgery the total gland was removed, later experience bringing the recognition of the fact that this produced myxedema. It may be that the removal of a parathyroid tumor, particularly where we are not certain of either the presence or the function of the other parathyroid glands, had best be done in this way. A case which I reported before the Southern Surgical Association December, 1932, lends support to this view.

In this case following removal of the parathyroid tumor, the serum calcium which had ranged from 10.6 mgs. to 11.8 mgs. during a period of two weeks' observation, fell rapidly to 7.5 and then to 4.6 mgs., at which time a definite tetany developed despite administration of calcium. Vigorous treatment with para-thor-mone and calcium salts returned the calcium balance to a positive one, however. The serum phosphatase at this time was decreased to 22 units, whereas during the observation period it was observed as being 61.7 units.

Aside from these upsets in the metabolism of calcium and phosphorus which are usually controlled easily, and on return to normal remain with a positive balance, the other symptomatic evidences of relief are rapid and marked. Pain disappears quickly and promptly and usually there is a definite and early improvement in the general health of the individual. Bony changes are reported by some observers to improve following parathyroidectomy, and in the main, there seems to be small evidence that there is much effort to return to normal as one would naturally expect. Perhaps x-ray studies of the bony lesions over a long period of time may reveal some such evidence in the future.

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PUERPERAL INFECTION*

T. K. BROWN, M.D.†

Saint Louis, Missouri

In spite of the great advances that have been made in surgical technique in late years, we still are faced with the fact that from 6,000 to 7,000 deaths occur in the United States annually because of childbed fever, and that at least 100,000 other lives are more or less wrecked by this disease.

It is 85 years since Semmelweis pointed the way to the prevention of puerperal fever. This brought about a tremendous reduction in the mortality from puerperal fever, but has not eliminated it. There are still cases of puerperal infection, ranging from a mild to a very severe type, present in our well regulated hospitals, where aseptic and antiseptic techniques are conscientiously followed. In view of these facts it seems justifiable to bring this matter up for discussion.

The situation in the United States is probably no worse than in any other part of the

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†From the Washington University School of Medicine, Department of Obstetrics and Gynecology, the St. Louis Maternity Hospital and Barnes Hospital.

world, although statistics are used at times to prove that "the death rate from childbed fever is higher than that of any other civilized land." Quoting from the *Journal of the American Medical Association* (March 12, 1932), "It is rather sad, therefore, to have deKruif argue that any considerable number of physicians do not know about asepsis or that they are too busy to practice it. His cure for the situation is apparently to urge boycott for any physician in whose practice there occurs a death from puerperal infection. No doubt this would promptly bring about a boycott of every competent obstetrician, since even under the best of conditions, with the most noted of authorities in charge, cases of puerperal infection do occur. Actual epidemics have developed in well established lying-in hospitals. Medicine knows that infection is preventable, but disease prevention is costly and the suggestion that every baby should be born in an isolated maternity hospital is Utopian. As well believe in the 'Brave New World' of Aldous Huxley and have all of them raised from eggs in glass jars. Physicians may prevent infection from without the body, but there are cases of infection from within.

"The prevention of puerperal infection will not be realized by boycotts of doctors in whose practice cases occur. At this time, obstetric care in the United States for the vast majority of women is as good if not better than the majority of civilized countries. Therefore, it is unfair to the medical profession of this country to make them the scapegoats for promotion of any campaign or for building interest in the eulogy of a departed scientist. The life of Semmelweis needed no such false emphasis to attract intelligent readers."

It is seldom admitted in American literature that autogenous infection may occur but we will try to show that it does occur rather frequently, that it can cause death, and what type of organisms are to be found involved in these cases, and perhaps offer a suggestion as to the prevention and treatment of such cases.

According to Williams, "Puerperal infection includes the various morbid conditions which result from the entrance of infective microorganisms into the female generative tract during labor or the puerperium."

The condition has been recognized since earliest history. Hippocrates described the symptoms and course of the disease with great accuracy and thought it was due to the retention of lochia. Ambrose Paré (1575) believed the

cause to be the entrance of cold air into the uterus at the time of delivery.

Kirkland (1774) considered it a contagious disease causing inflammation of the uterus due to the absorption of putrid material. He emphasized drainage and the removal of decomposing products from the uterine cavity; and contemplated the use of some antiseptic injection but did not use it.

Collins adopted the use of disinfectants on his service at the Rotunda Hospital (1826-33) with the practical elimination of the disease.

Holmes (1843) wrote his essay on "The Contagiousness of Puerperal Fever" after careful study of the subject, but his views met with strong opposition in this country and had but little influence upon the profession.

Semmelweis (1846) noticed the difference in the maternal mortality in the two divisions of the Lying-in Hospital in Vienna. The first division attended by doctors had a mortality of 11.4 per cent, while the second division attended by midwives had a mortality of 2.7 per cent from puerperal fever. He was at a loss to explain these findings until the death of a colleague, due to septicemia following an accidental wound during an autopsy, gave him a clue. The postmortem in this case struck Semmelweis by its similarity to those he had made on puerperal fever cases. The relationship was quite clear. He instituted the technique of washing the hands followed by the use of chlorine water. In the first year the mortality dropped to three per cent and in the second year, to 1.27 per cent. This was the first work which pointed out that this disease was almost always conveyed from without and started with infection of the uterine wound.

As the result of the work of Pasteur (1860) on the germ theory of disease and Lister (1867) on antiseptics, the true value of Semmelweis' contribution became apparent.

With the development of antiseptics and asepsis the maternal mortality due to infection dropped decidedly, but has not been eliminated. The number of cases due to the usual pyogenic bacteria, are very few. However, there continued to be cases which were febrile and clinically puerperal infection, but cultures were negative. In 1910, Schottmuller indicated the anaerobic streptococcus as a virulent pathogenic organism, frequently associated with uterine infection. This type of organism does not grow under the ordinary aerobic conditions and was missed, therefore, in cultures from these cases which

catheterized because of the danger of contamination which may frequently superimpose a urinary infection. Drapes are placed. A Graves' vaginal speculum is used to obtain exposure of the cervix. If this is not satisfactory, large vaginal retractors will be necessary. The vagina and cervix are then prepared with the above solution of five per cent neutral acriflavin. Treat the cervical canal with this solution and then dry carefully with sterile gauze. A culture is then obtained from the uterine cavity with a Little tube. If it is not possible to have careful bacteriologic investigation of the material obtained, at least several smears of material can be made and stained by the Gram method. This has been done routinely and found to check very well with the bacteriologic findings. Both aerobic and anaerobic blood agar slants should be made. The Wright anaerobic technique is used in search for anaerobic organisms.

After the culture has been obtained the uterine cavity is very carefully investigated with a Foerster's sponge holding forceps, plain jaw. Dilatation of the cervix is usually sufficient to permit this. The sponge forceps is inserted closed to the depth desired, opened, closed, and removed to see if any tissue has fallen within the jaws. The forceps should not be advanced with the jaws open because of the danger of grasping the uterine muscle. The uterus is usually found to be relaxed in such cases. After mechanical removal of any retained debris, the patient is given an intra-uterine douche using a Bozeman's extra large intra-uterine douche nozzle. This instrument permits the free exit of the solution from the uterine cavity without any pressure being established. Two liters of a 1:1000 solution of potassium permanganate in sterile water at 105° to 110° F. are used. This solution is usually acidulated with 50 cc. N/1 sulphuric acid. The bottom of the douche can is held at the level of the symphysis so that the water pressure of the solution as it enters the douche nozzle is 15 cm. or less. Such a douche results in (1) removal of small bits of tissue remaining after mechanical emptying of the cavity, (2) firm contraction of the uterus, including the cervix, so that bleeding is controlled and sinuses are closed, (3) elimination of the putrid discharge which is characteristic of the anaerobic infections.

The patient is then examined carefully for evidence of any spread of the uterine infection, pelvic abscess or thrombophlebitis. This is also done without an anesthetic in order that the

patient's reaction to pain will limit the extent of the examination. Too much pressure will not be used, which might cause rupture of an abscess internally.

As a prophylactic treatment of puerperal infection, the use of an antiseptic vaginal instillation during labor offers some hope. At present a solution of one per cent neutral acriflavin in glycerin is being used because of the apparent specificity of acriflavin for cocci, the chief offenders having been found to be cocci. The glycerin has a definite antiseptic value likewise. Routinely 7 or 8 cc. of this solution are instilled into the vagina with a one-fourth ounce rubber tipped urethral syringe before the patient is examined and every six hours during a prolonged labor. Morbidity figures have been reduced by about one-half since the adoption of this technique.

RESULTS

1. Reduction of morbidity rate.
2. Shortening of the course of the disease.
3. Lessening of the severity of the disease.
4. Fewer complications.
5. Shorter convalescence.
6. Reduction of mortality rate.

I do not wish to introduce any radical change in the general treatment of uterine infection either postpartum or postabortal. The treatment which has been discussed should not be carried out in all cases, unless facilities are of the best and the operator understands the details of the treatment and realizes the care with which it must be done. Many cases will do quite satisfactorily without interference. Our results have shown the high incidence of anaerobic organisms as the cause of this condition and that the removal of necrotic material from the uterine cavity brings about the prompt arrest of the disease process and has not, in our experience, caused any undesirable complications.

CONCLUSION

The most satisfactory method of treatment of puerperal fever will be its prevention. The results from the use of an antiseptic instillation during labor have been gratifying in the reduction of the morbidity rate. However, if the disease occurs spontaneously or in spite of any antiseptic or aseptic technique employed, it seems that the more conservative treatment is the active treatment here described. If such treatment is to be used, it must be instituted at the earliest stage of the disease and be performed by the gentlest of technique. Pelvic examination at the time of treatment and subsequently is of the

greatest value in determining the course of the disease. An intra-uterine douche seldom needs to be repeated and if properly performed does not cause complication. Such treatment often establishes the crisis in puerperal infection and the case takes a turn for the better. In cases in which the infection has spread and is severe, palliative measures are followed and the main hope seems to lie in the use of blood transfusions given frequently and in large amounts, 500-800 cc.

BENIGN PROSTATIC OBSTRUCTION; GROSS PATHOLOGY AND ITS RELATION TO TYPE OF TREATMENT

A. G. ISAAC, M.D.

Newton, Kansas

The introduction the last few years of a new treatment for prostatic obstruction has given impetus to a renewed and detailed study of the pathology of the prostate. Even though I have become very much interested in and enthusiastic about transurethral resections of the prostate, it is not my purpose to advocate any one type of treatment.

In this paper I wish to describe the chief types of benign prostatic obstruction, demonstrating these types by sketches, and then point out what seems to be the logical approach for the relief of the obstruction in each type.

For a classification I shall follow that of Alexander Randall who made a careful autopsy study of about 1300 cases in which group he found 222 cases of real prostatic hypertrophy. His description of this work is a classic. The benign cases are divided into median bars and hypertrophies and the hypertrophies into five main types, namely: (1) Simple bilateral lobe hypertrophy, (2) posterior commissural hypertrophy (deep middle lobe), (3) bilateral and posterior commissural lobe hypertrophy, (4) subcervical lobe hypertrophy (superficial middle lobe), (5) bilateral and subcervical lobe hypertrophy. Then there are a few other rarer types such as the anterior lobe hypertrophy, the subtrigonal lobe hypertrophy, and their combinations with the more frequent types.

As to treatment, I am taking for granted three accepted procedures: (1) Suprapubic prostatectomy, (2) perineal prostatectomy, (3) transurethral resection.

Even though transurethral resection is a very

new method, or at least a recently revived method, it has rapidly taken its place as an accepted procedure in relieving a large number of these cases.

It is true that most advocates of the suprapubic operation, although they always admit that certain types should logically be removed by the perineal operation, practically always stick to their suprapubic operation. Men doing perineal operations, although they admit that certain types, like the large intravesical growths might better be taken out suprapubically, practically always do the perineal operation. And now there is a tendency by some to do all the cases by the transurethral operation even though they admit certain cases might better be done by one of the other approaches. It seems that any one of the three methods, if done expertly, will nicely take care of the majority of cases, and yet, I think that in carefully going over the different types, one can point out what seem to be the logical cases for each.

I am not saying that the gross pathology is the only consideration in determining the type of treatment. I am not unmindful of other factors such as the age and general condition of the patient, the kidney function, infections of kidney, bladder, prostate, and complications of all kinds, etc., but as the type of enlargement is one of the most constant factors to consider, when deciding on how to attack a given case, I feel justified in confining this discussion to that part of the problem.

As stated above, benign prostatic obstruction is divided into two main divisions, namely: (1) median bar, (2) hypertrophies.

The so-called "median bar" is primarily caused by an inflammatory process in the floor of the sphincter and adjacent tissue. Adjacent tissue which can harbor chronic infection consists of superficial subcervical glands, somewhat deeper subcervical glands, the prostate gland, and the seminal vesicles. It is thought that these deeper structures harboring infection stimulate hyperplasia of the floor of the internal sphincter, thus raising the floor, and that later a process of sclerosis and fibrosis takes place in this inflammatory hyperplastic tissue with a resultant lack of functioning of the sphincter and obstruction. This condition comes on slowly over a period of many years with a gradual increase in obstruction. It is entirely distinct from hypertrophy, having a recognized inflammatory etiology. The sphincter floor is raised for possibly one-half inch of its length. The pos-

terior urethroscopic view shows many of these cases to have a very abrupt rise where the bar begins, which accounts for the difficulty in catheterizing some of them with the ordinary straight catheter, because the tip runs up against this wall and does not easily ride over it.

Urologists generally agree that some type of transurethral operation should be used for their treatment as there is no tumor to enucleate in this type of case. At the present time resectoscopes using a high frequency cutting current, (the same instruments that are used for resection of the hypertrophies) are being used by the majority of us. Median bar is the indication "par excellence" for transurethral resection.

The second main division of benign obstruction consists of the various types of hypertrophy as were listed above.

It is interesting to theorize about the etiology of the hypertrophy of this gland, but as there is nothing definitely known about it, I will pass that up, except to say that in recent work done by Lower and his associates at Cleveland, they have shown that the hypophysial secretion by acting on the testicles influences secondary sex organs, including the prostate. Whether this will lead to any practical application is not yet known.

Theories about the location of the starting points of the hypertrophy, and why the enlargement takes place in certain directions are worth some discussion.

The first theory of prostatic enlargement is that the adenomatous growth simply replaces the normal gland structure, therefore originating right in the lobes of the prostate.

Another theory, which is the one that is held by a larger number of students of the subject, and possibly by the majority, is that the adenomatous enlargement begins in the periurethral glands. Figure 1 is a cross section of the posterior urethra and prostate schematically showing the location of the periurethral glands, labeled subcervical glands. According to the second theory the enlargement begins in these glands, pushes the prostatic tissue ahead of it, compresses it, and the compressed gland then forms the false capsule for the growth. Some facts that fit into this theory are: (1) That the capsule about the well enlarged prostate is histologically made up of prostatic tissue, (2) that when there are extra, usually smaller, lobes, they are always found outside of the main tumor, between it and the false capsule or compressed prostatic tissue, (3) if prostatic

calculi are present along with hypertrophy they are practically always found outside of the regular enlargement in the compressed prostate or false capsule.

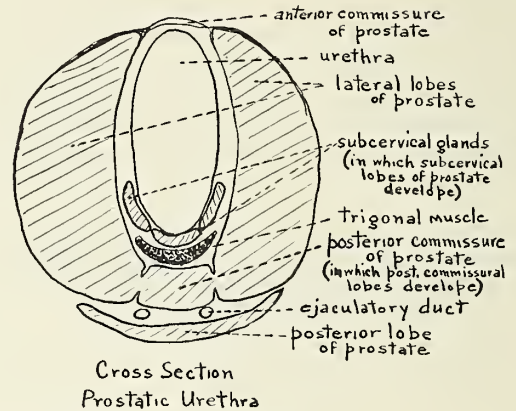


Fig. 1. Sketch illustrating cross section through prostatic urethra.

The last of the theories is a combination of the first two, namely that the enlargement arises in both the prostatic lobes proper and the periurethral glands, or in either one alone. This is the theory for which Randall feels that he collected definite evidence in his study of the many autopsy specimens. He says that he was unable to account for the various types of hypertrophy by either of the first two theories alone and he concludes that some enlargements originate in the periurethral glands, and others in the lobes of the prostate.

Now, in what direction does the prostate enlarge and why? This is simply a matter of studying the natural barriers to its growth. It cannot enlarge toward the perineum because it rests right on the strong triangular ligament. It cannot enlarge very far ventrally because it is so close to the symphysis pubis, but it can enlarge some laterally and a great deal posteriorly into the space normally occupied by the rectum. It can of course push into the urethra until the lobes meet, and it can also expand upward, either by lifting the floor of the bladder, or if the internal sphincter is weakened by the growth of a middle lobe, the lateral lobes may herniate into the bladder along with the middle lobe.

Figure 2 is a sketch illustrating simple lateral lobe enlargement of the prostate. Without an accompanying middle lobe, the lateral lobes do not herniate through the internal sphincter into the bladder, but the growing tumor pushes the bladder floor upward, compresses the prostatic

urethra and of course expands laterally and posteriorly where it meets the least resistance.

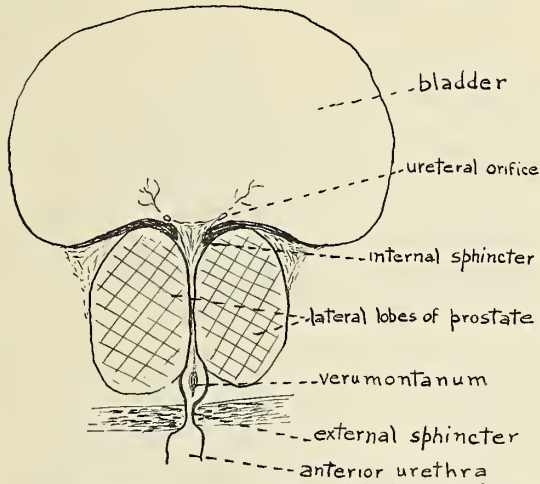


Fig. 2. Sketch of simple bilateral lobe hypertrophy.

From a study of this type of enlargement what is the logical approach for its relief? The tumor is not intravesical and therefore a suprapubic approach means entering the internal sphincter from above, shelling out the prostate and dragging it out through this sphincter with more or less injury, depending on the size of the mass. Because the perineal operation approaches the gland from its posterior aspect between the two sphincters, it certainly is the most logical approach if the tumor is to be removed. By this method the lobes have often been removed without breaking into the urethra. Now however, the transurethral method of removing that part of the lateral lobes that protrudes into the urethra has become so satisfactory, that it is being done by many of us instead of prostatectomy and seems very logical. As can be seen by studying the sketch in figure 2, the intruding lobes are easily approached by the urethral route and the intruding parts of the lateral lobes removed. There is, however, some technical difficulty in removing sufficient tissue in this type of case because of the intact internal sphincter. Perineal prostatectomy certainly seems to be the most logical approach in this type of case. Less than ten per cent of the cases are of this type.

Figure 3 is a sketch illustrating posterior commissural hypertrophy. It is located between the posterior parts of the lateral lobes and because Randall was unable to find it to have a separate capsule from that of the lateral lobes it is his firm belief that it is a part of the lateral lobes. Therefore he named it posterior commissural lobe, or a lobe in the commissure, or

the connection between the lateral lobes. It is underneath the trigonal muscle which runs from the verumontanum through the sphincter and spreads out to the interureteric ridge. This muscle limits the growth of the posterior commissure and therefore this lobe is always a smooth, non-pedunculated mass, with a broad base, widening the opening of the internal sphincter and raising the floor of the sphincter, thus giving a characteristic cystoscopic picture. I have often called this the deep middle lobe in contrast to the superficial subcervical type of hypertrophy illustrated in figure 5, which is entirely superficial to the trigonal muscle. The action of the trigonal muscle is to pull posteriorly the sphincter floor, and this opens the sphincter in the act of urination. This action is of course made more and more difficult by the enlargement of the deep middle lobe, so that finally the bladder is unable to empty itself, the residual urine increases and something has to be done to relieve the obstruction.

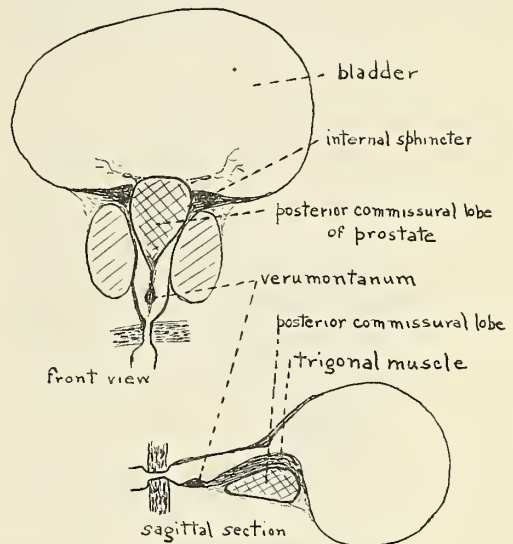


Fig. 3. Sketch of posterior commissural lobe hypertrophy.

It is in this type of a case, that sometimes the material removed by a punch operation or the newer electrical resection has been found to be only muscle and the operator has been accused of not getting what he went after, namely prostatic tissue. It simply means that the underlying middle lobe, which may be quite small, has caused so much hypertrophy to the trigonal muscle that the obstructing tissue is chiefly muscle.

Protruding into the bladder as it does, it is nicely approached suprapubically, but prostatectomy is an unnecessary procedure for this

type of case. Because the lateral lobes are not involved, and the mass protrudes into the bladder beyond them, the perineal route is not at all adaptable to this type and is also too formidable a procedure. Here transurethral resection is excellent. The raised floor can be trimmed down as desired, the obstruction removed, and the patient cured with a minimum amount of discomfort and disability.

Figure 4 illustrates a combination of the preceding two types. It is this group that gives one the collar type of prostate which from the bladder looks similar to a uterine cervix. With the middle lobe acting as a wedge in the internal sphincter it encourages the herniation of the lateral lobes through the sphincter also. If it is true that this middle lobe is a part of the lateral lobes then this process is easy to understand. The lateral lobes do not herniate into the bladder unless they are in combination with a middle lobe enlargement. It seems that the first wedge has to be thrust in under the trigonal muscle, and then the lateral growths can follow suit.

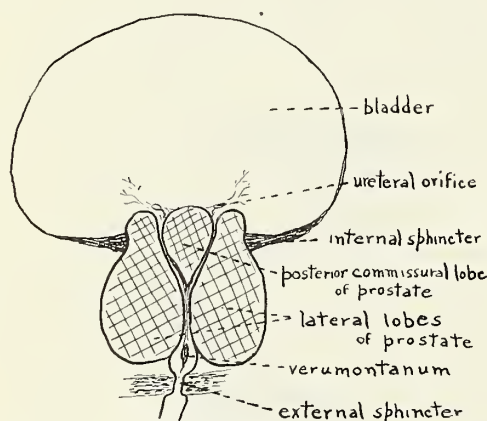


Fig. 4. Sketch of bilateral and posterior commissural lobe hypertrophy.

This type of gland can be removed very nicely by the suprapubic operation and if it is very large and intrudes very far into the bladder, that is the treatment of choice. The perineal operation is all right here if the enlargement is not too far intravesical. If the intravesical portion is not exceptionally large, the transurethral method is also very satisfactory. With the internal sphincter dilated, a funnel-shaped opening can be made from the sphincter to the verumontanum without coming in close contact with anything except prostatic tissue. If the growth is extremely large and protrudes far into the bladder, the suprapubic operation is the one of choice.

Figure 5 is a sketch illustrating the subcervical type of hypertrophy, or what I have previously called the superficial middle lobe type. These tumors are superficial to the trigonal muscle and there is nothing to prevent them from growing right out into the bladder. They tend to be pedunculated, are not excessive in size, and frequently cause the ball-valve type of obstruction. The important difference between this type of middle lobe and the deep middle lobe is that they are on opposite sides of the trigonal muscle, and this fact accounts for the difference in their characteristics.

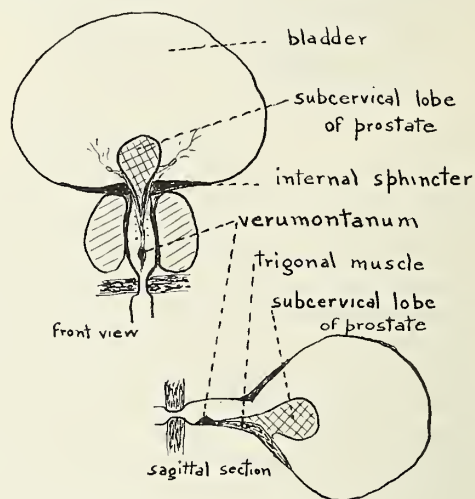


Fig. 5. Sketch of subcervical lobe hypertrophy.

What is the logical approach to these tumors? As they are all intravesical, the perineal route is out of the question. As they are usually not excessive in size, the suprapubic operation is an unnecessarily big procedure. These cases are very logically treated by the transurethral method.

Figure 6 is a sketch illustrating the combination of the bilateral and subcervical or superficial middle lobes. In this combination the lateral lobes very frequently herniate into the bladder too. This is the typical three lobe prostate as seen after enucleation.

Because of the intravesical lobe it does not seem as logically approached from the perineum. Because the lateral lobes almost always herniate into the bladder to some extent at least, enucleation by the suprapubic method would seem to be much more logical and this again is the route or choice if the lobes are markedly intravesical or are enormously enlarged. If, however, the lobes are not too enormous and the instrument can be introduced at all, the transurethral ap-

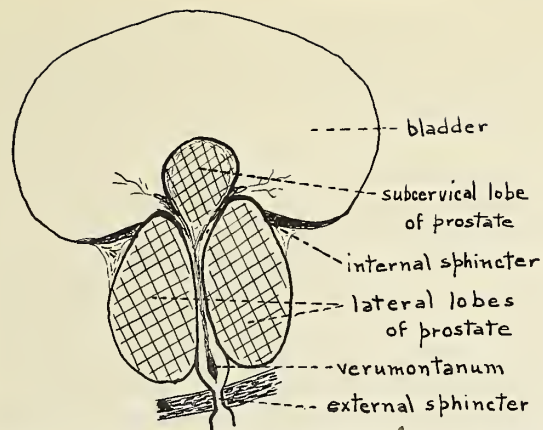


Fig. 6. Sketch of subcervical and bilateral lobe hypertrophy.

proach is so satisfactory that by far the largest per cent of these can be done that way.

The above are the five main types of enlargement and probably more than 90 per cent of all cases of prostatic hypertrophy will roughly fit into one of these classes. There are a few other rare types such as an occasional case of anterior lobe enlargement, or an anterior commissural type, or a combination of both the deep and superficial middle lobes. Also there are a few cases of a subtrigonal type which is just the same as the subcervical or superficial middle lobe except that it originates farther out on the trigone of the bladder.

As I stated at the beginning, it was not my purpose to advocate any certain type of treatment. It is very natural however that one would put more emphasis on a method that is so very satisfactory in such a large per cent of cases as is the transurethral method. It was my purpose to describe the chief types of benign prostatic obstruction and point out what seems to be a logical approach for treatment of each, from the standpoint of the gross pathology.

C. Malone Stroud, St. Louis (Journal A.M.A., Nov. 10, 1934), found dilaudid to be an efficient analgesic in the control of constant pain. It is more helpful in cancer than any other opiate that he has used. In order to obtain continuous relief of constant pain, the method of administration is important. The doses should be administered with sufficient frequency to permit continuous effect. Although in the type of case that he observed the detection of habituation was difficult, he believes that dilaudid is less habit forming than morphine. There was less deterioration of character and better morale in patients who were treated with dilaudid than in patients treated with other drugs. The untoward side effects were less troublesome than those of other opiates.

CHRONIC ENDOGENOUS HYPOGLYCEMIA WITH NEUROPSYCHIATRIC SYNDROME*

LEO STONE, M.D.

Topeka, Kansas

While diabetes mellitus is one of the oldest of definite clinical entities, the opposite disturbance of carbohydrate metabolism, spontaneous hypoglycemia, is a relatively new concept in medical consciousness. It is probable that the epoch-making introduction of insulin into medical practice and the numerous observations of untoward reactions to overdosage, i.e., hypoglycemic shock, expedited the recognition of clinical syndromes due to low blood sugar of endogenous origin. Altho hypoglycemia had been studied previously in the biochemical laboratory, special credit is due Seale Harris¹ who in 1924 described clinical symptoms accompanied by low blood sugar readings which he attributed to an excess or disorder of insulin secretion. Conclusive proof of the occurrence of "hyperinsulinism" in man was furnished by Wilder et al of the Mayo Clinic² in 1927 in the study of a case of adenocarcinoma of the islets of the pancreas characterized by a severe hypoglycemic symptomatology. The neoplastic tissue in this individual, including the metastatic nodules in the liver, yielded potent insulin extracts.

During the past ten years spontaneous hypoglycemia has been recognized and treated with increasing frequency, and an extensive literature of case reports and reviews has accumulated. The reader may be referred to the reviews of Sippe and Bostock³ and Gammon and Tenery⁴ for a general survey of the subject. As the available clinical material increases, it becomes apparent that over-secretion of insulin, while certainly an important cause of hypoglycemia, is not the sole cause. Several etiologic classifications have been presented, differing in minor details.

Of these etiologic types of hypoglycemia, an important if not common form is that associated with gross hepatic disease. The severity of these cases, which probably depend on disturbance of the glycogen-storing function of the liver, is enhanced by the fact that numerous other essential functions of the liver may be progressively attacked by the same pathologic process which causes the hypoglycemia, and death may ensue despite apparent control of the glucose level of the blood.

*From the Menninger Clinic, Topeka, Kansas.

The following case is presented as an unusual example of chronic hypoglycemic symptomatology with acute exacerbations. Both the chronic and episodic manifestations were entirely in the neuropsychiatric sphere, a tendency which has received much recent comment in the literature and which necessitates the consideration of hypoglycemia in the differential diagnosis of all obscure neurologic or psychiatric disturbances. This case, while not certainly of hepatic origin may be classed as such tentatively, since a gross and histologic morbid change in the liver remains as the only conclusive clinical, laboratory, or operative finding to date.

CASE HISTORY

Mrs. C. W., a Kansan housewife, 50 years of age, reported to the Menninger Clinic on June 24, 1933, complaining of headaches of four years' duration and dizziness of recent onset. Her family history was essentially negative. In childhood she had a severe attack of typhoid fever. She had been married 26 years; her husband was healthy. There had been two stillbirths (unexplained). One son (the third pregnancy) was 17, healthy in all respects. In 1926, the patient had been troubled by excessive uterine bleeding. For this condition her right ovary, uterus, and appendix had been removed, and a diagnosis of "tumor" verified. The patient had been amenorrheic since that time and had suffered from occasional "hot flashes", persisting even to the present. For these symptoms she had received abundant hormone therapy without benefit. She also complained up to the present of occasional pain, tenderness, and swelling in her left lower quadrant, "in her ovary".

Four years before admission the patient began to suffer from a vertex and occipital headache, occasionally including the posterior surface of her neck, most severe in the morning, disappearing toward evening. The headache would be relieved by lying down, only to reappear with the erect posture. It increased in duration and severity so that at the time of admission, the patient was suffering from an almost constant severe pain in the distribution mentioned. During the spring preceding admittance the patient began to suffer from a vague dizziness, a "wobbly" feeling, associated with unclearness of vision. There was also, at times, a transitory confusion and inadequacy of mind. As a result of these symptoms the patient found it necessary to carry her head stiffly erect, "lest something

spill." There had been no vomiting.

On the morning preceding admission the patient tried to talk to her husband on awakening, but succeeded only in "jabbering". After a few moments, the disturbance of speech disappeared as suddenly as it had appeared. It was this alarming symptom which precipitated the patient's visit to the Clinic.

On detailed questioning the patient added a few minor symptoms. Recently her hands had become numb at times, as though "wrapped in wool". She had become generally "nervous" and fatiguable. There had been one brief attack of tingling of the lips. On several occasions she had felt as though her eyes were going to cross or as though they had crossed, but no one had ever observed a strabismus. Diplopia had not occurred.

POSITIVE EXAMINATION DATA

Physical Examination: A short blonde middle-aged woman, well developed, well nourished. Tongue unusually smooth. Mild chronic postnasal catarrh. Tenderness over the cervical spine. Lower midline laparotomy scar. T P R normal. Blood pressure 135/80. No other important findings.

Neurological Examination: Slight bitemporal visual field constriction to finger test. Symmetrical tendon hyperreflexia without clonus or pathologic reflexes, not including the ankle-jerks. Abdominal reflexes slightly less active on the left. Slight bilateral uncertainty in finger-to-nose test with closed eyes. Slight bilateral diminution of all superficial sensation below D 12. Right nasolabial fold a trifle smoother than the left. Bilateral slight diminution of air conduction hearing, more marked on the right. Considerable swaying in the Romberg position. Bilateral ruddiness of the optic disks with slight fullness and tortuosity of the veins. Visual acuity 20/70 bilaterally (marked asthenopia). No other important findings.

Laboratory Examinations: Urine negative, specific gravity 1.027. Hemoglobin 90 per cent; red blood count 4,800,000, white blood count 7,250, polymorphonuclear leukocytes 64 per cent, small lymphocytes 32 per cent, large lymphocytes 2 per cent, basophiles 1 per cent, transitionals 1 per cent. Blood Wassermann and Kahn negative. Lumbar puncture: Fluid clear. Initial pressure 162 mm. water; rose 150 mm. and fell promptly with light jugular pressure and release. Cell count 6. Total proteins 66. Wassermann and colloidal gold curve negative. (For blood chemistry and all subsequent spe-

cial examinations see accompanying table.)

Perimetry: For varying diameters and colors, there was a tendency to slight bitemporal constriction. This was not constant on repeated testing.

x-Ray: Cervical spine negative. Teeth negative. Skull: Lateral and A-P views showed a very slight absorption of the posterior clinoid processes, of doubtful significance. This appearance was not observed on a subsequent plate.

Psychiatric Examination: Revealed nothing of importance except an impatient, highly opinionated temperament, particularly refractory to painstaking medical investigation. The subjective confusion to which the patient was susceptible at times was not evident on the day of examination.

Tentative Diagnosis: Despite the paucity of conclusive objective findings, it was felt, on the basis of the history, that the patient was probably suffering from a progressive intracranial (posterior fossa) lesion, perhaps in the fourth ventricle region. This was thought to be an adhesive inflammatory process or a minute pedunculated intraventricular tumor, in either case accompanied by slight or intermittent hydrocephalus. An expanding lesion in the chiasmal (i.e., pituitary) zone was also considered. The patient was asked to enter the hospital for a short period of observation.

COURSE IN HOSPITAL

The patient entered the hospital on June 26, 1933. She was querulous and skeptical about the advisability of detailed study throughout the observation period. The morning after admission she complained of partial failure of vision, but this cleared within a few hours. The nurses observed occasional twitching of the left orbicularis oculi. The temperature was usually normal, or a degree below normal. June 27 lumbar puncture was performed with the patient in perfectly horizontal position (maintained for 24 hours thereafter) and the utmost precaution against rapid decompression. The results have been recorded. The patient was deprived of her evening meal the day of the puncture and given a very light breakfast the following morning. Even before her breakfast she complained vaguely of feeling "queer".

After breakfast the patient was visited by her son, who sought the physician in alarm, stating that his mother was "acting queerly", in a manner never before observed by him. As soon as she was approached, the patient de-

clared vehemently that she was going crazy, that she *was* crazy, that she didn't know what was the matter with her. There was something the matter with her head; otherwise she was all right. She burst into tears, rolled from side to side, kicked her legs wildly into the air in a vain attempt at backward somersaults, exclaiming loudly and repeatedly that she was going crazy. It was observed immediately that the patient's skin was generally cold and clammy, a phenomenon strikingly out of harmony with her excessive activity. Extensive neurologic testing was impossible at the time. However, it was noteworthy that the patient executed the finger-to-nose, finger-to-finger, and other tests referable to the upper extremities with irregularities no greater than the slight disturbances originally observed. She was, however, utterly unable to execute the heel-knee-shin tests; instead she flung both legs wildly and hopelessly about and allowed them to bounce back and forth on contact in a fashion resembling that of extreme cerebellar ataxia. Both knee-jerks at this time were extremely hyperactive, with moderate patellar clonus; the ankle-jerks were increased over their previous state, but still relatively diminished. The left plantar reflex was entirely normal; the right showed an abortive tendency toward extension and then executed normal flexion. The nasal border of the right optic disk was perhaps slightly less distinct than before. The right corneal reflex was slightly less active than the left. The right nasolabial fold was definitely smoother than the left. The patient was able to name small objects and to read simple printed matter. In twenty or thirty minutes the patient's behavior became normal. The severe patellar hyperreflexia persisted, with slight awkwardness in the right heel-knee-shin test. About two hours later, the patient was perfectly comfortable, free of all symptoms, but she exhibited on examination a definite unquestionable right Babinski sign. A few hours later, this too disappeared, never to reappear under our observation, and the patient soon returned completely to the neurologic status observed on admission.

Following this strange hysteriform episode, occurring in relation to diminished ingestion of food, despite the patient's genuine protestations of poor appetite, the provisional diagnosis of spontaneous hypoglycemia (origin unknown) was established. This was verified by subsequent studies of blood chemistry, in which the response to glucose ingestion (Dysinsulinism-

Harris) remained a puzzling feature, certainly insofar as sheer over-secretion of insulin might be considered the cause of the patient's hypoglycemia. This phenomenon, however, has been observed repeatedly in other cases, with various explanations.

At this point, the nature and gravity of the patient's illness were explained to her, with the necessity for careful study and prolonged surveillance. The patient's attitude was singularly perverse and she demanded her release on June 29, 1934, only to be readmitted for a brief stay a few days later, when her symptoms became more severe. Thereafter, the patient was seen at irregular intervals, depending on her subjective need for treatment. The results of the studies which she permitted as a hospital patient and as an outpatient are recorded in the accompanying chart.

SUBSEQUENT COURSE

It is unnecessary to detail each of the patient's visits. Before her discharge she was placed on a schedule of small two-hourly feedings from 8 a.m. to 10 p.m., extra nourishment to be taken during the night if symptoms appeared. In addition, she was to eat ordinary meals, not excessively nutritious. The two-hourly feedings consisted of nutritious rations, not high in freely soluble immediately available glucose. (It was later observed that the patient's most severe symptoms sometimes followed closely a large "rich" meal.) Under this regimen, the patient exhibited considerable improvement; no severe or acute symptoms occurred. On July 18 the patient felt well, but complained of the persistence of occasional slight occipital headache and dizziness. It was decided to try the effect of a relatively high fat, low carbohydrate diet (as recommended by Seale Harris), strictly calculated, with fixed interval feedings. However, the patient reported exacerbation of symptoms under this regimen and she found it difficult to adhere to the diet. On July 27 the original dietary plan was resumed, to be followed by a persistent and marked general improvement, paralleled by the blood sugar determinations.

On August 24, 1933, the patient decided that she felt well enough to discontinue visits to the Clinic. An occasional letter and indirect reports indicated that she continued to do her housework and to feel fairly well during the fall, winter, and spring of 1933-1934. A letter of July 23, 1934, stated the persistence of some of her original symptoms, and the appearance

of transitory dull epigastric pain. It also stated that a recent blood sugar determination had been 41 mg. per cent. However, the patient did not come again for examination until August 14, 1934. At this time she was brought to the hospital in an ambulance as an acute emergency.

The patient's husband stated that she had been feeling below par for several weeks and there had often been excessive restlessness in the early morning, relieved by taking orange juice. As the hot weather became more severe, the patient's appetite diminished until she could not force her intake to the required level. Four or five days before admission, the patient had had an attack of "mumbling, numbness, and deadness", from which she recovered with general massage. On the morning of admission at 6:15 a.m. the patient did not respond to attempts to rouse her. She muttered only irrelevant words and seemed incapable of drinking fluid effectively. After a short time, the husband and family physician gave up their attempts at resuscitation, and decided on hospitalization. On her way to the hospital the patient improved sufficiently to drink a bottle of "pop".

On her arrival, the patient complained of a severe frontal headache. Her pulse was small, rate 88. Blood pressure was 130/70. Temperature was 101° (rectal). Abdomen and lungs were normal. There was a blowing systolic murmur at the cardiac apex. Tendon reflexes were symmetrically exaggerated, without Babinski or clonus. There were no neurologic findings that differed essentially from those originally recorded. The patient could count fingers across the room, but complained that everything seemed hazy to her. As soon as her blood was taken for chemistry she was given 50 cc. of 50 per cent glucose intravenously and thereafter sips of orange juice as often as she would take them. An ice cap was applied to her head, and she was watched very closely. As she improved, she professed a total amnesia for the events of the morning up to a hazy remembrance of drinking the "pop".

The day after admission, the patient became afebrile and ambulatory. Complete reexamination, including x-ray of the sella turcica and perimetry revealed no new and significant findings. It was noteworthy that the patient had gained a few pounds despite her recent illness and anorexia. She demanded her release on the second day following admission, but consented to think about the necessity for surgical abdominal exploration.

On August 19th or 20th the patient went to the Mayo Clinic, Rochester, Minn. We are greatly indebted to Drs. Russell Wilder and Waltman Walters for information regarding her course under their observation. A diagnosis of spontaneous hypoglycemia was made, and exploratory laparotomy was carried out with the expectation of discovering and removing a pancreatic adenoma. A circumscribed nodule was found at the junction of the head and body of the pancreas. However, on excision and microscopic examination this proved to be a lymph node. A double strand of thick silk was carried around the pancreas and ligated anteriorly to the division of the coeliac axis and splenic artery. One Penrose drain was inserted in case there should be a tendency to pancreatic necrosis.

Exploration of the liver revealed a marked gross fibrosis, with a stellate fibrous appearance of its peritoneal covering. Immediate microscopic examination indicated a chronic peribiliary cirrhosis. Further study revealed a "definite hepatitis confined to the portion of the liver adjacent to the capsule but diminishing in intensity centrally." While the opinion at the Mayo Clinic was at first definitely in favor of the hepatic origin of the patient's hypoglycemia, some doubt was thrown on this idea by the atypical character of the liver findings. The patient was offered reoperation with the purpose of resecting a portion of the pancreas, but she elected to return to her home on September 26, 1934. The patient had some temporary benefit following her operation, but her blood sugar fell to subnormal levels as soon as she became active, with a recurrence of symptoms.

On October 16, 1934, the patient returned to the Menninger Clinic, looking somewhat pale and drawn. She had lost a few pounds of weight. She complained that she felt no better than before her operation, that she was, indeed, considerably worse since her return to her home. She stated that she had a practically constant headache, with giddiness and impairment of vision. She also complained of sour gastric eructations and of a profuse malodorous vaginal discharge, which had begun just before her return. On general physical and neurological examinations, no new findings were apparent except a well healed upper mid-line laparotomy scar.

The patient was given symptomatic therapy for her gastric and pelvic complaints, and she responded to it promptly. She was placed on a

two-hourly schedule of small high carbohydrate meals, with the advice that she avoid excessive eating at her regular meals, i.e., that she maintain as steady and slow a glucose assimilation as possible. In addition to this regimen, the patient was given liver extract at first intramuscularly, later by mouth, in the hope that it would at least stimulate her appetite, and possibly furnish some essential principle lacking in her body economy because of the liver lesions found at operation. To date, the patient has exhibited steady improvement, and a recent fasting blood sugar reading was 67 mg. per cent. It is, however, too early to evaluate the effect of the liver extract.

DISCUSSION

The special features and the implications of this unusual case may be discussed under the following headings: (1) the neuropsychiatric syndrome, (2) the etiology of the hypoglycemia, (3) the diagnosis, (4) the treatment.

1. The Neuropsychiatric Syndrome: In reviewing the history of this case, one is struck by the number and variety of symptoms referable to the nervous system. In a single patient there were chronic headache and giddiness, evanescent recurrent confusion, visual disturbances, paraesthesias, and acute episodes of stupor, aphasia, and hysteriform motor activity. It has been noted in the literature⁵ that all of these cases present neurologic or psychiatric symptoms, and the variety of possible symptoms included in thorough compilations excludes reproduction in this brief report^{5, 6}. It should be noted, however, that these symptoms range from remarkable simulations of hysteria, anxiety seizures, and acute psychogenic psychoses to equally remarkable simulations of acute intoxications, encephalitides, brain tumors, migraine, organic vertigo, and genuine epilepsy. It is indeed a fact of increasingly wide acceptance that an appreciable although uncertain percentage of periodic hitherto unexplained convulsive seizures are dependent on hypoglycemia. Just as hypoglycemic phenomena may be totally lacking in objective physical signs of disease, so may they with almost equal facility present organic features, such as a Babinski sign or a transitory hemiplegia, ordinarily associated with gross anatomic disease of the brain or spinal cord. In the case presented, organic and hysteriform symptoms were mixed in an especially confusing fashion. The diagnosis of conversion hysteria was indeed considered early in the examination to be dismissed promptly. In

general, it may be said that almost any function or portion of the voluntary or autonomic nervous system may be disturbed by lowered blood sugar and that there is no way to predict or explain the symptomatology of a given individual except in terms of the familiar generalizations applied to the localizations of all systemic disease processes. Because of the especial affinity of this metabolic disorder for the nervous system neurologists and psychiatrists must be especially familiar with it. All practitioners, however, are confronted with the problems evoked by it, especially in their acute or incipient forms. Furthermore, the scope of the symptomatology has been extended to include (among others) cardiac and respiratory symptoms⁷, paroxysmal disorders of childhood,^{8, 9, 10} especially acetonuria and vomiting^{11, 12} and a large group of vague illnesses characterized by weakness and neurasthenoid symptoms^{3, 12}. Certain of the symptoms of pregnancy and lactation have also been approached from this point of view¹³.

2. The Etiology of the Hypoglycemia: To understand the variety of possible causes of hypoglycemia, one must recall the simple outlines of carbohydrate metabolism, in any phase of which a disturbance may arise. Sufficient carbohydrate (relative to the energy necessities of the organism) must be ingested, properly digested, and assimilated from the gastro-intestinal tract into the blood stream. There a fairly constant limit of fluctuation is maintained under ordinary conditions. The combustion or storage of glucose requires an adequate amount of insulin, secreted by the islands of Langerhans in the pancreas. The storage of carbohydrate is accomplished by the conversion of glucose to glycogen in the liver (glycogenesis) whither it is brought by the portal system. Some glycogen is also stored in muscle tissue. Demands for glucose, not met by immediate assimilation of fresh carbohydrate, are met by the hydrolysis of glycogen (glycogenolysis), with the liberation of glucose into the blood stream. Glucose which is superfluous either to the needs of combustion, blood sugar level, or glycogenesis, may be converted into fat. In maintaining the blood sugar level, the renal threshold against glycosuria may also be important. Into this relatively simple scheme must also be introduced the factors of neural and endocrine influence. Overactivity of the parasympathetic nervous system (manifested by vagotonia) tends to depress the blood sugar. Overactivity of the sympathetic nervous system

tends to elevate the blood sugar, and this phenomenon has received therapeutic application in section of the splanchnic nerves for diabetes. It is also important that endocrine derivatives such as pituitrin, thyroxine, and adrenalin are antagonistic to insulin in that they tend to elevate the blood sugar. Clinical cases have been described which lend importance to the etiologic possibilities of a disturbance in any of these numerous phases of glucose biochemistry, ranging from exhaustion due to violent effort or lactation to pituitary syndromes relieved by appropriate endocrine therapy.

In general, however, it may be said that the most important causes of clinically severe hypoglycemia are: (1) Hyperinsulinism, and (2) Disturbance of the glycogenetic or glycogenolytic functions of the liver. The former may be due to (a) Adenoma or adenocarcinoma of the pancreatic islets, (b) Hyperplasia or hypertrophy of the islets, (c) Hyperfunction of the islets in a structurally normal or apparently normal pancreas. The occurrence of hyperinsulinism is securely established from the laboratory and clinical points of view. The idea of occurrence of hepatic hypoglycemia, while definitely established in animal experimentation¹⁴ and altogether "reasonable", has gained ground more slowly. Many of the cases described have been incidental phenomena in the course of severe toxic, infectious, or neoplastic diseases of the liver.^{9, 15, 16, 17, 18, 19} However, there have been some cases of reasonable certain hepatic origin, in which the hepatic disorder apparently spared all of the major functions of the liver except that of carbohydrate storage and mobilization.^{10, 11, 18, 19, 20} In a few cases, marked fatty replacement of the liver has been found.^{11, 20}

In children, disease of the liver is apparently the most common cause of hypoglycemia, although pancreatic adenoma has occurred.¹¹ Cammidge¹² is of the opinion that the majority of all cases of hypoglycemia are of hepatic origin. In closing this brief and incomplete outline it should be mentioned that some authors have gone beyond the anatomic concept in the pursuit of etiology, and the factors of chronic infection,¹² heredity,^{12, 21} dietary habits,²² and even climate³ have been considered among others. S. Harris^{1, 21, 22} has always been interested in the importance of hypoglycemia as a precursor of diabetes mellitus, a superficially paradoxical, but fundamentally rational point of view.

In the case here presented, the ultimate etiology is not settled. The results of abdominal exploration are of course definitely although not conclusively against the concept of pancreatic hypoglycemia. The possibility of an intracranial lesion in the third or fourth ventricle or hypothalamic regions is not definitely excluded, but this, if present, would probably be an inflammatory or degenerative rather than neoplastic lesion, in view of the failure of progression of neurologic signs. There is no evidence of hypo-adrenalism. The possibilities of hypopituitarism, hypothyroidism, hypogonadism, while faintly suggested by some of the findings and history can not at present be given an important place in differential diagnosis. The finding of a definite morbid change in the liver at operation remains the most tangible feature of the case to date.

3. The Diagnosis: It is not necessary to describe in this paper the usual symptoms of exogenous insulin shock, a syndrome now familiar to all physicians. In some of the classical instances of spontaneous hypoglycemia, the symptoms have been equally clear cut. However, this is not always the case, and the majority of cases cover a range of bizarre manifestations (v.s.) which does not permit the establishment of exclusive pathognomonic signs and symptoms. The paroxysmal nature of the symptoms, the relationship to diminished ingestion of food, and the presence of one or more of the features of "insulin shock" characterize many of the cases. The episodic symptoms may occur against the background of a chronic slowly developing symptomatology (as in the case described) or as startling occasional interruptions of "perfect health."

The positive diagnosis is made by determination of the fasting blood sugar or the response to glucose ingestion. However, as in all medical diagnosis, the physician must consider not only the presence of a possible etiologic factor but must prove to his satisfaction the relationship of the possible causal factor to the patient's symptoms. A startlingly low blood sugar may exist in an individual who feels perfectly well. On the other hand, certain individuals may experience the symptoms of hypoglycemia with blood sugars well within "normal" average figures.^{3, 4, 6} Diabetics sometime experience hypoglycemic symptoms on sudden reduction to figures which are still above the normal average. Thus the sensitiveness of the individual patient to his blood sugar level is highly important, and

the low or relatively low blood sugar reading with the clinical symptoms (especially in their relation to the abstinence from or ingestion of food) remain an indispensable diagnostic combination.

In the case presented above, the chance observation of a bizarre reaction to diminished food intake facilitated a diagnosis which might otherwise have been delayed for some time. The diagnosis was borne out by blood sugar determinations and by the patient's excellent response to a high carbohydrate intake. This patient did not exhibit the craving for food which distinguishes many patients, especially in acute episodes, and which is very helpful in diagnosis. Indeed, this patient has been distinguished by a persistent paradoxical anorexia.

4. The Treatment: When a disease entity is not yet completely understood, it is difficult to speak dogmatically of a standard therapeutic approach. The attitudes of students of spontaneous hypoglycemia may be in general divided into two major points of view: (a) The surgical point of view, which postulates that an operable adenoma of the pancreas may be present in any case of hypoglycemia, and that prompt abdominal exploration is indicated, with the purpose of removing the adenoma, or if it be absent, of more definitely excluding it from the diagnosis.⁵ (b) The conservative medical point of view which postulates that the majority of hypoglycemias are of internal "medical" nature, that dietary treatment should be tried first, and that surgery should be employed only if medical treatment fails or if there is strong reason to suspect the presence of a pancreatic adenoma.^{1, 3, 12, 21, 22} The surgical point of view has now been extended to include the plan of partial pancreatectomy in those cases in which gross lesions of the pancreas are not found.²³ This procedure would theoretically diminish the insulin-bearing quantity of pancreatic tissue in much the same way that subtotal thyroidectomy presumably diminishes the thyroxine output of the overactive thyroid gland. The results of removal of pancreatic adenomas have been good, as may be expected. The partial pancreatectomy has not yielded striking results to date, although it has been argued that a very large part of the pancreas must be removed to test the procedure adequately.²³

These points of view must represent to some extent the differing clinical experiences of their respective proponents. The internist who may

see a large number of relatively mild chronic cases that respond very well to dietary treatment is not inclined to urge surgery. The surgeon or other specialist who comes into contact most often with severe rapidly progressive cases is impressed with the necessity for prompt surgical exploration. Many cases have been relieved, even cured, (from the clinical point of view) by dietary or other medical treatment. However, it must be conceded that the pancreatic adenomas or adenocarcinomas which cause hyperinsulinism usually cannot be palpated through the abdominal wall or visualized radiologically. It may be said that the "tumor" (i.e. true surgical) cases are in general more rapidly progressive, more severe, more erratic in their course, and more promptly fatal.⁴ These criteria may be of some help in making a decision regarding the wisdom of surgical intervention in a given case.

The case here presented has always exhibited considerable improvement with carefully planned and supervised dietotherapy. Two other patients previously observed by the author responded favorably to the same treatment. However, their ultimate course is not known to him. In view of the steady multiplication of etiologic possibilities in this condition, it seems fair to give every case the benefit of a trial with medical therapy, especially if it be mild and chronic, and to resort to surgery if the clinical response is poor, or if the clinical course in any way suggests neoplasm. With the medical therapy, it is of course necessary to employ every available resource of modern medicine in an effort to fix the anatomic or dynamic cause of the disorder in the individual case and then to attack the etiologic factor radically.

The medical treatment of hypoglycemia is simple. It consists of extra feedings of carbohydrate so timed as to anticipate the patient's symptoms, or, in chronic cases, distributed uniformly through the day, in quantities prescribed according to individual needs. Whether these feedings consist of simple foods, orange juice, pure cane sugar or glucose, barley sugar, or standard pharmaceutical preparations matters little, except as it may involve palatability or individual digestive peculiarities. Some individuals do not react well to massive doses of glucose. The patient here described has at times suffered severe reactions following heavy meals, and she has usually felt best when taking small feedings at two-hour intervals throughout the

day. S. Harris²² a pioneer student of this disease, is impressed with the relationship of this problem to that of diabetes mellitus. He has suggested that a high carbohydrate diet may be a provocative factor in spontaneous hypoglycemia (through over-stimulation of insulin production) and later of diabetes mellitus (through insulin exhaustion) in the same individual. On the basis of this theory, Harris treats his patients as potential diabetics, giving them a low carbohydrate diet, with favorable therapeutic results. That our patient reacted adversely to this approach and favorably to the opposite approach may be another point against pancreatic disorder (hyperinsulinism) as the cause of her trouble.

Adjuvant treatments are certainly justified where physical or anamnestic findings indicate their use. Endocrine substances such as pituitary, thyroid, and adrenal have been employed with favorable results in some cases. However, great caution must be observed in the exhibition of potent glandular extracts, since their action can never be predicted with certainty in a given case. In this case, the patient has to date shown a favorable response to liver extract, but neither the *modus operandi* nor the eventual outcome can as yet be stated.

SUMMARY AND CONCLUSION

A case of chronic endogenous hypoglycemia with a neuropsychiatric syndrome has been described. The hypoglycemia is thought to be probably of hepatic origin. The important features and implications of the case have been briefly discussed.

The case represents a disease entity, only recently appreciated by medical men, which is probably far more common than the frequency of diagnosis would indicate. The diagnosis will probably be made with increasing frequency as the concept becomes more widely accepted. It should be borne in mind that certain clinical features of the disease and blood sugar determinations are both essential to proper diagnosis. Although the study of the urine may give invaluable information about hyperglycemia or renal function, the urine in hypoglycemia is usually lacking in distinguishing characteristics. A clue may be found in the small proportion of cases with sugar-free acetonuria, in the absence of other causes. This, however, is not pathognomonic, and direct blood chemistry is always indispensable to complete diagnosis.

SPECIAL LABORATORY DATA

Date	Fasting Blood Sugar	Plus 100 gm. glucose p. o.	1 hr.	2 hr.	3 hr.	Other Tests
6-27-33	40 mg. %					Blood NPN 46 mg. %
7-4-33	50.8 mg. %		260	300	240	Morning urine normal
7-6-33	48 mg. %		250	214	188	
7-7-33						BMR minus 10 %
						Urine 1 hr. post-prandial negative.
						Urine concentration test, maximum 1.020.
						Phenoltetrachlor-phthalein liver function test
						15 mins. 11 %
						1 hour 3.5 %
7-8-33						Pancreatic ferments in feces: Amylase moderately decreased, 15,000 units. Trypsin not demonstrated.
7-14-33						
7-19-33	50 mg. 15 mins. after Epinephrin. M X 50 mg.					
7-24-33	1 hr after, 50 mgm.					Urine neg. for sugar acetone and diacetic acid.
7-27-33	44 mgm. %					
8-10-33	84 mg. %					NPN 38.9 mgm. %
8-24-33	77 mg. %					
8-14-34	115 mgm. %	(Bottle of "pop" consumed en route to hospital.)				
8-15-34	52 mgm. % Urine sugar neg.		193 Urine sugar neg.	200 Urine sugar neg.	117 Urine sugar neg.	Routine urine examination negative. 4th hour—72 mg. % Urine sugar negative.
Mayo Clinic August-September before operation.	46 mg. % 85 mg. % plus ½ cc. adrenalin 45 mins. 112 90 mins. 108 45 mg. % in a.m. 45 mg. % in evening	½ hr. after 1 gm. per kilo of wgt. 133 mg.		149	67	1. Tetrabromphthalein test negative 2. Serum bilirubin normal. 3. Van den Bergh reaction indirect 4. Total lipids "practically normal."
Sept. 20 after operation.						

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Although hemeralopia is a frequent symptom in the ordinary, mild, chronic, adult type of xerophthalmia, it was not present at any time in the case that J. A. Thorson, Dubuque, Iowa (Journal A.M.A., Nov. 10, 1934), reports. The disease ran a protracted course for six years, with a seasonal variation in severity. During the fall and winter months the patient consumed no vitamin A, while in the spring a few green vegetables and eggs became timely sightsavers. The effect of abundant sunlight, as proved by the ingenious experiments of Powers, Park and Simmons, must also have been an important seasonal therapeutic factor.

TRAUMATIC RUPTURED SPLEEN— SPLENECTOMY—CURE

LEWIS W. ANGLE, M.D.

H. W. KASSEL, M.D.

Kansas City, Kansas

There is a wide variation in opinion relative to the occurrence of injured spleens following abdominal injury. According to Mazel¹ in a recent review of the literature he finds that in about 30 per cent of all abdominal injuries the spleen is involved, which seems rather high, as most personal observations are limited to few cases, my own being two, the first of which died on the operating table and the second survived operation which this report includes.

The causes of ruptured spleen can usually be divided into two definite classes, traumatic and spontaneous. Traumatic rupture is due to a direct or indirect blow to the upper abdomen as a fall, kick by a horse, or by advanced means of transportation, as automobile accidents or any accident which results in a blow to the upper abdomen with or without external injury. As stated by Deaver², "If the spleen is normal, a very great degree of trauma is necessary to rupture it."

Spontaneous rupture is associated with a pathological spleen as in Banti's disease, malaria, etc., in which the spleen is markedly increased in size and extremely friable.

Traumatic rupture may be divided into two classes relative to hemorrhage, as immediate and delayed, immediate being that type of case in which the symptoms of shock are quite obvious with sudden collapse and probable death. Also in this class we may have cases of less severe hemorrhage in which we get signs of shock in a milder degree in which immediate surgical intervention will give excellent results.

Delayed hemorrhage is as a rule in direct proportion to the damage of the spleen pulp and the large splenic vessels. In delayed hemorrhage the signs and symptoms may be vague and delayed for varying periods of time, from several days to several weeks.

An excellent classification by Councillor divides delayed hemorrhage into three groups: (1) Intersplenic minor hemorrhage with secondary rupture of the spleen; (2) perisplenic hematoma which may become encystic, supurate, become organized or rupture into the peritoneal cavity producing fatal hemorrhage, and (3) continuous slow hemorrhage from the

onset of the accident, the symptoms being dependent upon the severity of the case, whether the hemorrhage is copious, moderate, or delayed.

A diagnosis is usually made from the following points: (1) History of trauma, left side, (2) difficult breathing, (3) pain in left shoulder, (4) abdominal rigidity, (5) signs of shock, hemorrhage, rapid pulse, cold clammy skin, subnormal temperature, decreasing hemoglobin and red cell count with leukocytosis, (6) dullness in upper left quadrant, (7) signs of external injury may or may not be present.

TREATMENT

The treatment in all instances should be surgical, either a splenectomy or in certain selected cases a possibility of suturing. At the same time means must be employed to combat shock, as heat, morphine, and blood transfusions. Autotransfusions are used in many instances due to possible delay in getting donors, as described by Coley³. Medical or expectant treatment should in no instances be relied upon, for the time element between a ruptured spleen and operation is directly proportioned to the results obtained.

Connors⁴ says, "Immediate operation should be performed regardless of the patient's condition, and splenectomy is the operation of choice." Contrary to this are views of Armitage⁵ and McIndoe⁶ who say, "To operate on a patient suffering with systemic shock is unpardonable."

RESULTS

The exact function of the spleen is unknown, but over a long period of time it has been known that individuals can survive a normal existence without the presence of a spleen. It has been shown from autopsy records over a long period of time that in individuals who have had spleens removed, accessory spleens are present in many instances, and in many instances the accessory spleen has attained a size almost that of a normal spleen. There is an increased enlargement of the abdominal lymph node, thereby giving a compensatory action with the aid of the bone marrow. As stated before, the mortality is in proportion to the time element between rupture of the spleen and operation, and in those instances in which a diagnosis is made early and a splenectomy is done immediately, the mortality is markedly reduced.

CASE REPORT

Patient admitted to Bethany Hospital, March 17, 1934, discharged April 19, 1934;

female, age 33, white, married; occupation, housewife.

History as obtained from husband: While riding in an automobile on the intercity viaduct, patient's automobile was struck by a passenger bus, causing patient to be thrown from her car to the pavement. Patient was unable to arise, and on being placed in another automobile she complained of slight abdominal pain, but it was seemingly minor, so she was carried home, arriving about 4 p.m. Pain became increasingly worse, and her doctor (H.W.K.) was called. On examination he found no skin abrasions, but extreme tenderness along both the right and left costal margins with marked generalized abdominal pain and tenderness associated with extreme pallor. Patient was immediately sent to the hospital (about 6 p.m.).

At 6 p.m. blood examination showed hemoglobin 60 per cent, red cells 3,170,000, white cells 19,700. At 7 p.m. hemoglobin was 50 per cent, red cells 2,120,000, and blood pressure unobtainable. At 7 p.m. I (L.W.A.) saw her in consultation at which time patient was unconscious and pulseless, with marked abdominal distention, extreme shock, and obviously impending death.

An exploratory laparotomy was immediately indicated, at which time a transfusion of 600 cc. of citrated blood was given. During the patient's conscious moments Dr. H.W.K. stated she complained of a severe pain in her left shoulder, and in view of that fact plus the foregoing history and examination, a diagnosis of ruptured spleen was made.

OPERATION

Under ether anesthesia a left rectus incision was made, and on opening the peritoneum extreme pressure was encountered, free blood escaping. The spleen was examined and found to be torn through its short axis to and into the pedicle without any possibility of repair. The pedicle was clamped and sutured with number one plain catgut, following which hemorrhage continued. Further examination revealed a branch of the superior mesentery artery had been torn, which was clamped and tied. The diaphragm was examined rapidly and found intact, also the liver was uninjured. The wound was closed in layers without drainage.

Patient was returned to her room in good condition, temperature 97.4°, pulse 108, respiration 20. The following day 600 cc. of citrated blood was given. Her convalescence was uneventful other than pain along the right

and left costal areas.

x-Ray examination revealed fractures of the right twelfth rib and of the left tenth and eleventh, position fair. There was no evidence of fractured vertebrae.

Patient was discharged April 19, 1934, in excellent condition and was seen May 25 at which time she had no complaint and had regained her normal status. She was seen again October 1, 1934.

PATHOLOGICAL REPORT—GROSS

Specimen consists of a spleen weighing 210 grams and measuring 12½ by 8 by 7 cm. The spleen is markedly distorted by a stellate laceration beginning in the hilar region. The splenic pulp is quite macerated and hemorrhagic throughout. The hilar vessels have evidently been pulled from the hilum. There are numerous subcapsular hemorrhages. The splenic pulp in the region in which there is no draining is quite firm and does not scrape easily. The malpighian bodies are not noted and the trabeculae are indistinct.

HISTOLOGICAL PATHOLOGY

The capsule of the spleen is not particularly thickened. The pulp of the spleen shows the sinuses unusually distinct, many of them being lined by swollen endothelial cells. In other places the pulp seems to be normal and shows nothing very unusual. There is some accumulation of brown pigment. Considerable numbers of diffuse hemorrhages are seen scattered throughout the pulp associated with some necrosis in the adjacent tissue. Pathological diagnosis is laceration of the spleen with diffuse hemorrhages.

This patient was seen on October 1, 1934, at which time she was in excellent health, having regained her normal weight and her complete blood count having returned to normal. Contrary results by Smyth⁷ are reported as follows: "Our experience has been that prolonged observation and treatment of even a mild degree of anemia is necessary and worth while. In no case has the blood picture returned completely to normal."

CONCLUSIONS

1. A traumatic rupture of the spleen with splenectomy and recovery is reported.
2. Diagnostic symptoms enumerated, chief of which is pain in left shoulder following an abdominal injury.
3. Treatment of shock by transfusion.
4. Immediate surgical procedure, as splenectomy.

PRESIDENT'S PAGE

COUNTY MEDICAL SOCIETIES

To the Members of Kansas Medical Society:

The county medical society is the port-of-entry to the state society and through it to the American Medical Association. It is the hub of organized medicine around which all affairs medical rotate.

The purpose of the county medical society is to unite into one organization the physicians of that county or district for their mutual benefit and to promote the welfare of the community at large.

A county society to achieve any measure of success must follow certain methods to bring about the desired results and the first step in this direction is to secure the greatest membership obtainable from among the eligible and ethical physicians in that particular community—100 per cent strong is advocated. In order to accomplish this goal the society must offer such attractions to the nonmember that he will eventually realize the good things he is missing and seek entrance to the fold.

It is of paramount importance that the officers of the society be selected with an eye to the fitness and ability of the man for a particular office. And when, or if, you find a secretary who is par excellent, and of which there are a number of outstanding examples in our state, make him perpetual secretary, as a large measure of the success of a county society depends upon the effort, energy and enthusiasm of the secretary.

The same plan as used in the selection of officers should be followed in the appointment of chairmen and members of all committees. In particular, I would stress the selection of the appointments for the program, economics, public policy and legislation or similar committees.

The program committee should make the arrangements of attractive, instructive and progressive programs its first and foremost concern. It is an excellent idea to have guest speakers at stated intervals but in the main, I favor

the major part of the papers be given by members of the local county society for the more they put into the work the more they get out of it. Olin West, Secretary of the American Medical Association, has so ably said, "As I see the matter, one of the most important duties of the county medical society is to provide opportunity to develop its own members, in writing about medical subjects, and in their ability, whatever it may be, to get up and discuss intelligently and intelligibly. The real, fundamental duty of a county medical society is to make every member a better student and a better speaker and a better writer so that he may contribute to the common fund of knowledge."

We believe there should be an occasional meeting devoted to the economics of the profession; if not the entire program, at least the greater part should be given over to the consideration of these problems.

In our opinion there is nothing that promotes good fellowship and understanding as an evening dinner meeting. It is a good idea to include the wives and sweethearts at these dinners as this intensifies the feeling of harmony and friendliness. The annual banquet of the society should be a regular function and one of the high spots in the life of the organization. The ladies should be included in this event also. The program for this occasion need not be confined to scientific addresses, but should be more of a frolic where each can forget the cares and perplexities of the every day life and spend a few hours in mutual enjoyment and relaxation.

We favor a public meeting, at least once a year; preferably during health week. At that time it would seem advisable to have an outstanding guest speaker address the meeting. In order to make a success of such a meeting it would be well to interest civic leaders, public office holders, various clubs and organizations. This would possibly require some work on the part of the members, but I believe the result would be worth the effort.

Many of our county societies publish a monthly bulletin giving a list of its officers, various committees, and a report on the program and local news of interest. A copy of the bulletin is then sent to our Journal to be used as news items in that publication. The issuance of a bulletin is an excellent idea and one we would recommend. The cost would be negligible if typed or mimeographed.

EDITORIAL

THE PRESIDENT

Among the events of the Kansas Medical Society none is more important than adding one more name to our long list of devoted and distinguished presidents. The honor this year goes to Dr. J. F. Hassig whose capability and years of experience in Society work have well fitted him for the responsible position he will hold.



J. F. HASSIG, M.D.

Dr. Hassig was born in Galena, Ill., on February 21, 1875, and came to Kansas in 1882 with his parents. His father located in Brown County, and built the first house in the present town of Reserve.

At the age of 21 years, Dr. Hassig had graduated from the Kansas University School of Pharmacy, and in 1899 became a graduate of the College of Physicians and Surgeons in Kansas City. During 1900 he interned at St. Margaret's Hospital in Kansas City, and subsequently has practiced in that city.

In 1914 and 1915 he was secretary of the Wyandotte County Medical Society, and in 1916 was elected president of that organization. At the state meeting of 1917 Dr. Hassig became secretary of the Kansas Medical Society which

position he held until 1934 when he was asked to accept the presidency. During 1918 he was commissioned as captain in the Medical Corps of the United States Army, and served overseas at Base Hospital Number 60. In 1923 he received an appointment to the Kansas Board of Medical Registration and Examination, and at the first meeting thereafter was selected as chairman, a position he still holds. He represented the Society as delegate to the American Medical Association meetings from 1927 to 1933 inclusive, and in 1931 was president of the Kansas City Southwest Clinical Society.

Dr. Hassig at present is attending surgeon at St. Margaret's Hospital, active surgeon at Bethany Hospital, and surgeon at Providence Hospital. He is a fellow of the American Medical Association and of the American College of Surgeons, a member of the Kansas City Academy of Medicine, a medical director of the American Savings Life Insurance Company, and is active in civic and state affairs.

His efficiency as an official of the Society needs no comment. His presidential year should be an eventful one for Kansas organized medicine.

CLINICS

The attitude of the American Medical Association toward clinics is in accord with traditional principles of medical practice. The majority of physicians utilize their hospital affiliations in the diagnosis and treatment of seriously ill patients, but to realize the full value of hospital facilities the hospital should be considered, first of all, as a diagnostic plant. The laboratory, x-Ray, electrocardiograph and other instruments of precision, aid in determining conditions beyond the scrutiny of case history and physical examination, are essentials in general medical practice and can not be duplicated in every doctor's office. The diagnostic equipment of a hospital should be used more generally for diagnostic survey of patients requiring complete examination. This would widen the scope of usefulness of the hospital to physicians and to the community they serve.

In spite of the difficulty which hospitals are having in meeting overhead expenses some institutions have reduced the cost of service by establishing a single laboratory fee on admission, entitling patients to the required laboratory tests. This fee in some instances is six dollars and in one instance a fee of five dollars includes all necessary laboratory work, and tissue examination. These plans are worked out on a non profit basis and the laboratory will break even if the fee is collected in approximately two-thirds of the patients. Such arrangement serves to stimulate the use of laboratory aids in diagnosis, brings extensive laboratory investigation within the reach of those of low income and extends it to charity cases without loss to the hospital. With these organized facilities and a staff of qualified specialists for any desired consultation or special examination, many physicians believe that the hospital is the logical center for clinical medicine, and that the type of clinic which will meet with the approval of the majority of the medical profession, is the hospital in which the staff is a group of colleagues utilizing the facilities of the hospital for diagnosis.

THE PATIENT AS A HUMAN BEING

Osler once said to his medical students, "*And remember, there is something more to the patient than arteries and bones, veins and nerves.*" Perhaps those of us who have practiced a good many years, who have read those noble lines, recall them more often as we grow older. Sometimes one thinks that even in organic diseases of a serious nature, the mental suffering is worse than the physical. We physicians ourselves are notorious for allowing things to trouble us—if nothing more than being peeved when our competitor gets the case. In other words the "something more" of Osler's dominates us. Many of us who have had some illness along the trail, with ourselves or our families, do not so much remember any particular medical treatment but we can never forget the kindness and sympathy shown us by our brother physician in the time of our anxiety.

Old Dr. Dafoe of the North Woods, quintuplets fame is to be envied. We are told he charges three dollars for a confinement case, and other fees we suppose are in proportion. Yet the man seems to be happy. He is quoted as saying of those in the small corner where he practices, "They are good people. I would not think of leaving them." The truth is that while the professional dead-beat does take the joy out of practice, there are, nevertheless, at this time, tens of thousands of the best people who are in tragic circumstances through no fault of their own. These come to the physician, helpless, exactly as he would come if fate had put him in their place. After all it is a mere accident of birth whether a man is a physician, an author or a ditch-digger. The earth covers us all at last and it is noteworthy that the green grass is no respecter of persons. It is as kindly on the grave of the pauper as it is over the millionaire. The grass does justice to both. So that one should remember that in these trying times there is a real need to consider the patient not as a mere laboratory specimen but rather as a human being.

T. C. Hinkle, M.D.

"BLOWING HOT AND COLD"

Greed is a powerful slayer of morals. The ethical practices of business and professions soon fall to the demand for increased profits. It is too common a practice for pharmaceutical houses of rather high standing to place a new product before the physician, get his cooperation in building up a large sales volume and then abandon the profession and by radio, direct advertising in the lay press and other forms of ballyhoo tell the public that the product will surely cure them because "your physician prescribes it".

Some of these insults are perpetrated by houses that have profited handsomely through the sale of their products to the medical profession. The "pain killer" and similar advertisements in the women's magazines should lose these houses the respect and patronage of all ethical physicians unless there is a change in

their methods.

Physicians undoubtedly aid in these pernicious practices by too often lending their support to every new hatched combination that appears. A few more minutes thought in prescribing would stop at least the "hot blast" from these vendors of self medication.

THE COVER DESIGN

The editorial board has chosen the cover as found on this issue after much discussion and deliberation. The design was drawn by Brad Thompson following a selection of the subject by the editorial board. In considering the matter it was interesting to learn that there are very few symbols which are used to represent the general practice of medicine. The most usual symbol is the Staff of Asclepiades which consists of a serpent twined about a staff. The United States Army Medical Corps uses the Caduceus as its symbol. Both of these devices seemed to be too closely allied with the superstitions and folk-lore of medicine rather than the science and art of the profession.

One of the members of the board suggested that the most used instrument by all branches of the healing art was the stethoscope. Dr. Mills had on his desk a reproduction of one of the first stethoscopes which is essentially a hollow wooden tube enlarged at one end for the ear piece. This is combined in the design with a present day binaural bell type stethoscope.

The history of the stethoscope is most interesting because of its close relationship with some of the most brilliant minds of the profession. René-Théophile-Hyacinthe Laennec in 1819 invented the first instrument for listening to the sounds within the thorax. It was quite crude consisting of a rolled cylinder of paper but with this instrument he perhaps did some of the most brilliant work on diseases of the chest that medicine has ever recorded. He published his observations in a book called "*Traité de l'auscultation mediate*". His differentiation of bronchitis, bronchiectasis, emphysema and pneumothorax stand today as corner stones of

knowledge of diseases of the chest. Laennec died at the age of forty-five of pulmonary tuberculosis and some writers state that many of his accounts of the signs of phthisis were observed in his own body.

The refinements in the original stethoscope were a change in the shape of the tube, turned work to make it a more attractive piece of equipment, widening of the ear piece to better adapt it to the shape of the external ear and a widening of the chest piece into the form of a cone or bell.

The birth of the binaural stethoscope is shrouded in some controversy, however Harvey Cushing in his "*Life of Sir William Osler*" states that Osler should have credit for making the original binaural instrument. He had the idea which was made concrete by a Paris instrument maker. The variation of this type instrument is legion. The simplest type is the one shown in the cover design. There are diaphragm chest pieces, bell shaped chest pieces, combinations of the two, thumb rests, rubber chest pieces and so on ad lib.

It is interesting to some of the younger men to know that stethoscopes were not generally used until rather recent times. One of the members of the staff whose father was a physician recalls seeing his father pull a silk handkerchief from his pocket, cover the patient's bared chest and lay his ear over various parts of the thorax.

The design is original and we think, quite attractive. It has behind it a wealth of association in the development of internal medicine. It represents a rather young instrument but one which is now universally used. Like all other instruments its development has been slow and many active minds have improved its appearance and adaptability. The material between the ear pieces is still more important than the shape of the chest piece.

"Less than 50 per cent of patients in general hospitals pay professional fees. Physicians in hospitals, clinics, and their offices render free service valued at \$300,000,000 a year."—*Colo. Medicine*.

LABORATORY

BIOPSY

C. ALEXANDER HELLWIG, M.D.

Wichita, Kansas

The late master of pathology, Prudden, had a sign on the wall of his laboratory which read: "No specimen without clinical information will be accepted for examination." In biopsy, close cooperation between clinician and pathologist is more necessary than in any other diagnostic procedure. The surgeon should reveal at least his clinical diagnosis and the source from which the specimen is obtained.

I receive sometimes small bits of tissue, unaccompanied by any clinical data, with the request: "Look for cancer cells." There seems to be the opinion that cancer cells can be recognized under the microscope as safely as tubercle bacilli and that tissue diagnosis deciding on life and death of a patient can be entrusted to technicians and veterinarians (Rector). In spite of the perfection of optical lenses and staining methods we still are unable to diagnose cancer from a single cell. Study of cell characteristics is one important part of histological diagnosis, however it relies on the arrangement and the polymorphous character of many tumor cells in a given case, not on the structure of a single cell.

From this consideration it follows that the proper selection and faultless preservation of the biopsy specimen is as important as the competence of the man behind the microscope. If the patient has a cancer of the uterine fundus it does no good to send the pathologist a piece of the cervix. Not less helpful is it to send him tissue of the neighborhood instead of the tumor itself. All ulcers are covered with a dirty membrane which is dead and of no use in the diagnosis of cancer. Do not send this to the laboratory.

To make a tumor diagnosis possible the removed tissue must be prevented from decomposing or drying out. Have a bottle containing ten per cent formalin on your instrument table and drop the tissue therein as soon as it is removed.

Many surgeons who fear that biopsy may disseminate tumor cells use the cautery for removal of tissue. This practice distorts the appearance of the cells so that often a histological

diagnosis is impossible. Remove the tissue with a sharp knife and tissue forceps and, if you wish, sear the cut surface with the cautery afterwards. It is true that biopsy being a surgical procedure cannot be regarded as absolutely harmless. Besides the complications of any operation, hemorrhage, infection, unexpected injury to organs, one must consider the special dangers pertaining to the incision into tumors, namely stimulation of growth and dissemination of cancer cells through the blood and lymph vessels.

Therefore, biopsy should not be employed before other means of obtaining information have been tried. Except in ulcerated accessible tumors, biopsy should be used as a last resort after the less serious clinical methods of diagnosis have failed.

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MEDICAL SCHOOL CLINIC

PEPTIC ULCER IN CHILDHOOD: GASTROENTEROSTOMY ON A SEVEN YEAR OLD BOY*

C. C. NESSELRODE, M.D.,†

L. E. GROWNEY, M.D.,

MAURICE A. WALKER, M.D.†

Kansas City, Kansas

Chronic peptic ulcers of the stomach or duodenum may occur in childhood. Proctor brought this fact to the attention of the American medical profession in 1925, reviewing the nineteen cases described in earlier medical literature and adding three from the Mayo Clinic. Dickey reported three more cases in 1926. Of these twenty-five cases, five were first diagnosed at autopsy, eleven at operation, and nine clinically; the diagnosis in several of the latter was confirmed at operation. Kennedy, in 1933, described six more cases and endeavored to classify the peptic ulcers of children according to age groups and symptoms.

Ulcer of the newborn, which makes known its presence by melena neonatorum, is an acute lesion, as are also those peculiar ulcers of children from a few weeks of age to about the end of the first year of life which tend to occur in

*Abridgment of a paper read before the Western Surgical Association, Saint Louis, December 8, 1934.

†Department of Surgery, University of Kansas School of Medicine.

certain geographic localities, Acute ulcers may follow cerebral injury or extensive burns in children as well as in adults.

There remain two other groups, in each of which the ulcers are of a more chronic type in the sense that they may be present for a long time, and hence represent more nearly the kind of lesion affecting adults. Among children less than nine or ten years of age, the familiar syndrome characteristic of uncomplicated ulcer is usually absent; frequently abdominal pain, nausea, and vomiting have occurred, but not according to any usual or typical character or sequence. The condition has been found occasionally when an operation was performed because of some other diagnosis and, in some cases, the diagnosis was made when the development of the complication of hemorrhage, perforation, or obstruction caused symptoms similar to those of the adult patient. The second group is composed of children over nine or ten years of age, and particularly after puberty, when peptic ulcer usually assumes its characteristic features and symptoms, making it easily recognized.

As Proctor has clearly stated, "The most important single factor in the diagnosis is the realization that chronic peptic ulcer occurs in children." The roentgenologic signs of ulcer in children are not different from those in adults, so far as is known. Satisfactory treatment for most patients has consisted of a properly chosen diet, rest, and the administration of alkaline powders. Surgical procedures have been resorted to when strict treatment failed to control the symptoms, when complications developed, or when, as in our patient, an inferior family environment and subnormal social status made the maintenance of an adequate medical regime impossible.

REPORT OF CASE

A seven year old boy of indigent and ignorant American stock complained of cramps in the epigastrium on March 29, 1934. These became more severe and were followed by vomiting of water, mucus, and partially digested food. The following day, the cramps and vomiting were worse. His mother administered a proprietary laxative tablet, after which the vomitus was streaked with bright red blood. Late that evening, violent cramps of the muscles of his extremities resulted in his being taken to St. Margaret's Hospital.

The boy was dirty, sallow, and undernourished, with prominent ribs and sunken eyes. His

temperature was 102.6° F.; pulse rate, 164; and respiratory rate, 28. His abdomen was flat, with moderate tenderness in the epigastrium. A diagnosis was made of gastroenteritis due to infection, with dehydration and tetany resulting from vomiting. Physiologic solution of sodium chloride was administered subcutaneously. The vomiting and epigastric pain ceased, and the temperature and pulse rate returned to normal within forty-eight hours. The patient left the hospital on April 4.

On April 10, cramps in the epigastrium began again. He vomited every few hours and, in the afternoon of April 11, hematemesis recurred. He was again taken to the hospital. His temperature was 98.6° F.; pulse rate, 100; and respiratory rate, 22. Physiologic solution of sodium chloride was administered subcutaneously and, as before, the boy rapidly improved. On April 12, the concentration of hemoglobin was 71 per cent, and there were 5,130,000 erythrocytes in each cubic mm. of blood. On April 14, fluoroscopic examination of the gastro-intestinal tract by Dr. L. G. Allen showed a definite and persistent deformity of the duodenum which he interpreted as being due to a duodenal ulcer, with moderate dilatation of the stomach resulting from partial obstruction.

At 2 a.m., April 16, the boy began to vomit large quantities of dark red blood with some clots. His pulse became rapid and weak. By noon vomiting ceased. The concentration of hemoglobin was 52 per cent, with 2,430,000 erythrocytes in each cubic mm. of blood. A transfusion of 300 cc. of citrated blood was done, and repeated on April 20. A regime of diet, alkaline powders, and antispasmodics was instituted. Convalescence was uneventful and the patient seemed to have no further symptoms suggesting disease of the digestive system. On May 10, the day he was dismissed from the hospital, the concentration of hemoglobin was 65 per cent, with 4,440,000 erythrocytes. The parents were taught how to continue the medical regime at home, financial aid being furnished.

On June 12, 1934, severe epigastric pain again occurred, and he was said to have vomited a large quantity of blood before he was brought to the hospital on the following day. The concentration of hemoglobin, however, was 77 per cent, and there were 6,000,000 erythrocytes in each cubic mm. of blood. As usual, the boy improved rapidly with hospital care. That the blood had been concentrated by dehydration

was demonstrated by laboratory examination on June 26, after free administration of fluids; the concentration of hemoglobin was 58 per cent, with 3,740,000 erythrocytes.

At operation, on June 28, the duodenum was found to be adherent to the liver. An ulcer with calloused margins was palpable, perforating the posterior and superior walls of the first portion of the duodenum. In an attempt to partially occlude the duodenum proximal to the ulcer, the anterior wall was plicated with sutures of chromic catgut. A posterior gastroenterostomy of the usual type was done.

Convalescence was uneventful. Regular diet was given after the tenth postoperative day. Fluoroscopic examination on August 1 showed ingested barium passing freely from the stomach through the gastroenterostomy stoma; no barium was seen to pass through the pylorus into the duodenum. The patient left the hospital on August 3, thirty-six days after the operation. He was apparently in good health, and has so continued.

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1. Dickey, L. B.: Duodenal ulcers in children. *Am. Jr. Dis. Child.* 32:872-877 (Dec.) 1926.
2. Kennedy, R. L. J.: Peptic ulcers in children. *Jr. Ped.* 2:641-650 (June) 1933.
3. Proctor, O. S.: Chronic peptic ulcer in children. *Surg. Gynec. Obst.* 41:63-69 (July) 1925.

MEDICAL LITERATURE

Edited by William C. Menninger, M.D.

CHILDREN OF TUBERCULOUS FAMILIES

The authors began the study of the fate of children in tuberculous homes in 1926 and in 1927 they began to vaccinate some of the children with BCG. In 1931 they added to this procedure heat killed human tubercle bacilli. An untreated group was matched with the treated group to act as a control for the experiment. Judging by the results obtained with over 1000 children, BCG is not only harmless but apparently decreases the mortality due to tuberculosis. In a more detailed analysis of the observation of ninety-five children known from birth and exposed to tuberculosis during the first year, it was indicated that 1.8 per cent of the ones receiving BCG died of tuberculosis and 9.7 per cent of the controls died of tuberculosis.

Kereszturi, C.; Park, Wm. H.; Vogel, P. and Levine, M. Fate of Children of Tuberculous Families. *Am. Jr. Diseases of Children*, 48:507-516 (Sept.) 1934.

CHRONIC ARTHRITIS

Dr. Irons points out that the treatment of arthritis requires the revision of current medical

opinion concerning the nature and importance of the disease as well as the method of attack. He considers arthritis a major cause of suffering and says that it entails greater economic stress than any other disease of the temperate climate. Its etiology is diverse and it affects the whole body rather than merely certain organs. No single type of treatment will benefit all arthritis patients as their symptoms rise from various causes. Therapy must necessarily be individualized to meet the needs of each patient. Therapy based on the concept of the disease as a general one, will meet the requirements of a larger number of patients, and the number of those patients too far advanced to be greatly helped will be materially decreased.

Irons, Ernest E. The Treatment of Chronic Arthritis: General Principles. *Jr. Amer. Med. Assn.*, 103:1579-1583. (Nov. 24) 1934.

TREATMENT OF CHRONIC ARTHRITIS

Orthopedic consultation should be obtained at the beginning of chronic arthritis before deformity has occurred as the attempts to correct deformity are quite unsatisfactory while prevention is comparatively easy in the early stages. Light splints are used to prevent deformity and to lessen pain. Often deformed joints can be corrected by braces, applied serially, various apparatus that cause forced stretching, by manipulation and by surgery. However these joints are never so good as before the deformity. Therefore the orthopedic surgeon should work with the medical man from the very beginning of the arthritis and they should never relax their efforts to promote normal physiologic function and to prevent deformity.

Swain, Loring T. The Orthopedic and Physical Therapeutic Treatment of Chronic Arthritis. *Jr. Amer. Med. Assn.* 103: 1589-1594. (Sept.) 1934.

EXERCISE TOLERANCE IN ANGINA PECTORIS

The dependence of the diagnosis of angina pectoris upon purely subjective description of the patient's symptoms as given by the patient, as well as the lack of standardized instruments for gauging the severity of the disease is cited by the writers. From a clinical standpoint it is important that the physician witness one of the patient's attacks in order to study it. An exercise tolerance test was devised as a method of precipitating an attack and as a method of measuring the amount of exertion required for an attack. This test is of distinct value in diagnosing angina pectoris, and serves to evaluate the condition of the patient and the results of therapy applied to his condition.

Riseman, J. E. F. and Stern, Beatrice. A Standardized Exercise Tolerance Test for Patients with Angina Pectoris on Exertion. *Amer. Jr. Med. Sciences*. 188:646-659. (Nov.) 1934.

TRANSMISSION OF VIRUS DISEASES IN MAN

Various diseases contracted by man from animals are discussed by Dr. Meyer, including rabies, Rift Valley fever, louping ill, foot and mouth disease, infectious anemia of horses, dog distemper and psittacosis. The latter is discussed at length and the author suggests the public could protect itself from psittacosis if all would appreciate the danger in contact with birds and refrain from it, but the love for pets seems to be so strong that such refrain cannot be expected. The only possible alternative is that each pet shop be inspected and the infected birds be destroyed. Dr. Meyer concludes that these diseases contracted by man from animals illustrates the complexities of a relatively new field of medicine. As a reservoir of human virus disease the animal kingdom offers many intriguing possibilities and surprises.

Meyer, K. F. *Virus Diseases of Animals Transmissible to Man*. *Ann. of Internal Med.* 8:552-569, (Nov.) 1934.

PRESIDENT'S PAGE

(Continued from Page 24)

Some of the county societies with a small membership may not consider these suggestions as practicable, but we believe they are if two or more adjoining societies would unite in joint meetings at stated intervals throughout the year.

There is one more factor that will contribute largely to the success of the county society and that is the prompt payment of dues to the local secretary on the first day of January of each year. It is imperative they be paid by February 1st. (See Chapter 10, Section 14, of the Constitution and By-Laws of the Kansas Medical Society.)

The county society is your society and it is your duty to become thoroughly acquainted with the affairs and proceedings of your organization. You are defrauding and cheating yourself if you are negligent about your attendance. The society will do as much for you as you will do for it so why miss any of the benefits?

Get into the game. Don't be a slacker. Put your shoulder to the wheel and push. Push hard and make the hub spin in the direction of medical progress, professional unity, and public welfare.

J. F. Hassig, M.D., President.

NEWS NOTES

Committees of the Kansas Medical Society for 1935 were recently announced by Dr. J. F. Hassig, president, as follows:

EXECUTIVE COMMITTEE OF COUNCIL

J. F. Hassig, M.D., Chairman.....Kansas City
H. L. Chambers, M.D.....Lawrence
Geo. M. Gray, M.D.....Kansas City
O. P. Davis, M.D.....Topeka

PUBLIC POLICY AND LEGISLATION

E. C. Duncan, M.D., Chairman.....Fredonia
J. D. Colt, Sr., M.D.....Manhattan
E. C. Morgan, M.D.....Clay Center
J. F. Hassig, M.D., Ex-officio.....Kansas City
H. L. Chambers, M.D., Ex-officio.....Lawrence

SCIENTIFIC WORK

H. L. Chambers, M.D., Chairman.....Lawrence
L. S. Nelson, M.D.....Salina
E. G. Padfield, M.D.....Salina

PUBLIC HEALTH AND EDUCATION

H. E. Haskins, M.D., Chairman.....Kingman
H. F. Hyndman, M.D.....Wichita
Forrest A. Kelley, M.D.....Winfield
C. R. Lyle, M.D.....McPherson
V. E. Chesky, M.D.....Halstead

BUREAU OF PUBLIC RELATIONS

J. F. Hassig, M.D., Chairman.....Kansas City
H. L. Chambers, M.D.....Lawrence
Geo. M. Gray, M.D.....Kansas City
O. P. Davis, M.D.....Topeka
H. E. Haskins, M.D.....Kingman
W. S. Lindsay, M.D.....Topeka
L. G. Allen, M.D.....Kansas City
W. M. Mills, M.D.....Topeka

HOSPITAL SURVEY

E. S. Edgerton, M.D., Chairman.....Wichita
L. D. Johnson, M.D.....Chanute
R. W. VanDeventer, M.D.....Wellington

CONTROL OF CANCER

C. C. Nesselrode, M.D., Chairman.....Kansas City
J. L. Lattimore, M.D.....Topeka
Frank Foncannon, M.D.....Emporia
H. L. Snyder, M.D.....Winfield
F. R. Croson, M.D.....Clay Center
N. E. Melencamp, M.D.....Dodge City
J. G. Missildine, M.D.....Wichita
Milton B. Miller, M.D.....Topeka
Marion Trueheart, M.D.....Sterling

MEDICAL HISTORY

W. S. Lindsay, M.D., Chairman.....Topeka
E. D. Ebright, M.D.....Wichita
H. C. Sartorius, M.D.....Garden City

SCHOOL OF MEDICINE

L. G. Allen, M.D., Chairman.....	Kansas City
A. R. Chambers, M.D.....	Iola
C. F. Young, M.D.....	Fort Scott
L. R. McGill, M.D.....	Hoisington
O. E. Stevenson, M.D.....	Oswego

STORMONT MEDICAL LIBRARY

W. C. Menninger, M.D., Chairman.....	Topeka
G. I. Thacher, M.D.....	Waterville
T. E. Horner, M.D.....	Atchison

NECROLOGY

J. T. Axtell, M.D., Chairman.....	Newton
E. E. Morrison, M.D.....	Great Bend
C. M. Vermillion, M.D.....	Pratt

AUXILIARY

E. J. Nodurft, M.D., Chairman.....	Wichita
J. B. Carter, M.D.....	Wilson
C. A. Boyd, M.D.....	Hutchinson
W. G. Emery, M.D.....	Hiawatha
A. C. Armitage, M.D.....	Kinsley

DUES

Information concerning dues and membership reports for 1935 was recently forwarded to all secretaries of county medical societies.

Dues for the year will be \$8.00 per member as the House of Delegates at its 1934 meeting established an annual amount of \$10.00 and adopted a plan for 1935 enabling a loan of \$2.00 per member from the defense fund if such additional funds are found to be necessary.

All payments should be made to county secretaries. Promptness is requested that new membership records may be completed without delay.

DEATH NOTICES

Dr. Lee Cowan, 52 years of age, died at the Missouri Pacific Hospital, St. Louis, Mo., on December 9. He was born at Taos, Mo., on November 8, 1882, was a graduate of Ellsworth Central Medical College, St. Joseph, Mo., in 1906, and had specialized in eye, ear, nose and throat since post-graduate work at the Charity Infirmary, Chicago, Ill., in 1916. He had practiced in Atchison since 1923, and was formerly located at Iatan, Mo., Parker, Kans., and Falls City, Neb.

Dr. Hugh B. Hawthorne, 46 years of age, died at Mineral, Kansas, on December 24. He was a graduate of the Kansas Medical College of Topeka, in 1913, and had practiced in Concordia, Kansas, until 1919 when he located in Mineral.

Dr. Samuel H. Murphy, 72 years of age, died at Yates Center on December 26. He was a graduate of Eclectic Medical College, Cincinnati, in 1896, and had practiced in Yates Center and Chanute since that time.

Dr. Merle K. Scott, 56 years of age, died at the Community Hospital, Pittsburg, on December 10. He was born at Coyville on April 16, 1878, graduated from University Medical College, Kansas City, Mo., in 1901, and had practiced in Frontenac until 1929 when he located in Pittsburg.

MIDWINTER MEETING

The council will hold its annual midwinter meeting in joint session with the executive secretary committee at the Chamber of Commerce Building in Kansas City on January 15. Drs. Ned Cheney, K. L. Druet, E. G. Padfield and L. S. Nelson, Salina, will also attend to outline plans for the 1935 state meeting at Salina.

SALINE COUNTY SPEAKERS

Dr. W. R. Dillingham, Salina, in charge of publicity and scientific exhibits for the state meeting to be held at Salina on May 8-9-10, 1935, has authorized the following announcement:

"Saline County Medical Society desires to have one or more of its members appear on the program of each of the county societies between now and the date of the state meeting.

The local men have some well written papers on various subjects, and at some time during the meeting wish to invite those present to come to Salina in May, 1935."

Dr. Dillingham has a list of available speakers and subjects which he will forward to any society interested.

SICKNESS INSURANCE

The bulletin reproduced below was forwarded to presidents of county medical societies on December 18.

Subsequently, a draft of the bill proposed by the American Association for Social Security Incorporated has been received which provides compulsory insurance for persons receiving incomes to and including \$250.00 monthly, does not provide for indigent persons, and establishes lay and political administration of care given by physicians, dentists, hospitals and nurses. The bill is presently being studied by officials of the Society, and will be presented at the January meeting of the council for official action.

"A rumor is prevalent that the "American Association for Social Security Incorporated", composed of Bishop Francis J. McConnell, Jane Addams, Alfred I. DuPont and other social insurance advocates, intends to introduce sickness insurance legislation into the next session of the Kansas legislature, and legislatures of other selected states.

Although no definite data can as yet be obtained, it is said that the following provisions are contemplated:

1. Establishment of a state health insurance commission.
2. Creation of a state health insurance fund financed by employers contributing 1½ per cent of their pay rolls, by employees paying 3 per cent of their wages, and by the state appropriating an amount equal to 1½ per cent of total pay rolls of employers.
3. Payment of cash benefits for hospitalization, and medical, maternal and dental care.
4. Authority within the state commission, or local councils, for disbursement under panel systems, arbitrary fee schedules, selected salaried physicians, official hospitals, clinics, laboratories, etc., and other types of medical care they may desire.

This proposal may require considerable activity by the medical profession. While there are no objections to insurance assistance in payment of medical obligations, many objections result to the public when political and

lay administration of medical attention are added. As a matter of preparedness, it has been deemed advisable to provide county societies with all available data from the American Medical Association on the general problems involved. It is believed better organized action will be possible in combatting measures of this kind deemed to be unfavorable if every member is fully acquainted with first hand information.

Since it is impossible to forward sets of the enclosed data to all members, a suggestion is offered for your consideration: That you appoint a committee to study these pamphlets, and others to be forwarded, with the request that the committee report its views for general discussion AT THE EARLIEST POSSIBLE MEETING of your Society.

Additional bulletins setting forth more data received, and any official action taken by the Council at its January meeting will be forwarded. Also comments and suggestions from your committee and society will be appreciated."

BROWN COUNTY IMMUNIZATION

The Brown County Medical Society participated in an interesting immunization campaign which is reported by that organization as follows:

The county commissioners authorized diphtheria immunization for all children in the county between the ages of six months and ten years. Dr. W. G. Emery, Hiawatha, county health officer, was selected to direct the campaign, all twelve members of that society offered their services, and cooperation was secured from the county superintendent of schools, and local school authorities. Letters from the State Board of Health and the county superintendent were mailed to all teachers accompanied by request blanks. The blanks were distributed to parents, and newspapers cooperated in urging all to take advantage of the plan. Completed blanks were plotted on a map according to school districts, an attempt was made to divide applicants evenly among physicians, and a central point was selected for twelve districts with each physician, insofar as possible, in charge of a district within his locality. Two physicians were selected for Hiawatha, three for Horton, and one each for Morrill, Everest, Padonia, and Willis. Parents were asked to bring infants and pre-school children to their nearest school.

First toxoid was given on December 20 with physicians arriving at schools before their opening, and completing treatments before noon. A second series was given in the same manner on January 3.

Toxoid was furnished without cost by the State Board of Health, physicians received \$25.00 each and mileage from the county, 77 school districts were visited, and 1400 children were immunized.

Similar plans have been used recently in other counties, and the State Board of Health has offered free toxoid and its facilities to any counties interested.

MEDICAL REGISTRATION

Dr. C. H. Ewing, Larned, secretary of the Kansas State Board of Medical Registration and Examination, has announced that the following new licenses were granted by that board in a meeting at Topeka on December 11-12.

By examination: James Adlai Brown, Jr., M.D., Kansas City, Mo., a graduate of Howard University in 1934; Percy Craig Carter, M.D., Kansas City, Mo., a graduate

of Meharry Medical College in 1934; Jefferson Davis Fowler, Jr., M.D., Kansas City, Mo., a graduate of Meharry Medical College in 1934; Francis Wyatt Huston, M.D., Winchester, Kans., a graduate of Rush Medical College in 1934; Kenneth Milton Johnson, M.D., Kansas City, Mo., a graduate of University of California in 1934; Edgar William Miller, M.D., Fort Riley, Kans., a graduate of John A. Creighton Medical College in 1899; Richard Everett Speirs, M.D., Spearville, Kans., a graduate of State University of Iowa in 1933; Roland Boyd Scott, M.D., Kansas City, Mo., a graduate of Howard University in 1934; Frank Riggall, M.D., Prairie Grove, Ark., a graduate of University of Western Ontario in 1934; James Robert Tyner, M.D., Alton, Ill., a graduate of Washington University in 1934; Philip Butler Marquart, M.D., Lane, Kans., a graduate of Howard Medical College in 1931.

By reciprocity: Thomas Peck Butcher, M.D., Wichita, Kans., a graduate of Rush Medical College in 1934; Maurice Desmond Curran, M.D., Kansas City, Mo., a graduate of University of Kansas in 1932; Clifton Franzmann Hall, M.D., Topeka, Kans., a graduate of University of Louisville, Kentucky in 1930; Herman Klapproth, M.D., Halstead, Kans., a graduate of University of Texas in 1929; Beatrice Martha Lins, M.D., Lawrence, Kans., a graduate of University of Wisconsin in 1927; Roscoe Murray Needles, M.D., Beloit, Kans., a graduate of State University of Iowa in 1932; Maurice James Ryan, M.D., Kansas City, Kans., a graduate of St. Louis University in 1933; Harry Coleman Tomlinson, M.D., Burlington, Kans., a graduate of Washington University in 1931.

MEDICAL RELIEF

Considerable data has been compiled by the executive secretary office concerning medical care of indigent persons in Kansas. Although received entirely from unofficial sources it is believed to be substantially correct.

A representative portion is shown below. In general all data indicated that medical care is being furnished to indigents but that the major portion is being furnished gratuitously.

Barton County: The county society has contracted with the county commissioners to care for all persons on direct relief for which an amount of \$1300 is paid annually to the society treasurer. Members accept calls as they are received, and the fund is utilized to pay dues and organization expense. The contract also permits the society to select the county health officer which provides an annual salary of \$1200 and may be rotated among members. Present objection is that no provision is made for KERC workers thereby causing a large amount of charity work.

Brown County: The county has no county physician, and the county health officer cares for inmates of the county jail and poor farm. By agreement with the county commissioners, persons on direct relief receive office calls, home calls, medicine, surgery and hospitalization on a family physician-patient relation for which the county pays 50 per cent of regular fees. KERC and work relief recipients cause the major burden since no provision exists for them except extra days work allowance for medical care. Experience has been that they are unable to pay for the care after it is given.

Cloud County: Several physicians contract with the county commissioners for care of indigents in their vi-

cinity. A salary is paid which includes calls, ordinary medicine, and mileage. Surgery is furnished by these physicians on a 50 per cent fee basis, and hospitalization is provided for 66 $\frac{2}{3}$ per cent of the lowest ward rate. An objection is made that patients are unable to select a physician of their own choice.

Comanche County: No county physician exists, and physicians handle indigent cases for the county on a 75 per cent fee basis. The county commissioners have ruled, however, that KERC workers are not indigent. They are cared for without reimbursement excepting what can be collected from extra days work given to the extent possible. All medicines are furnished by the county.

Dickinson County: Indigent persons are cared for on a family physician-patient relation, and fees of 40 to 50 per cent are allowed when authority can be obtained from case workers. Hospitalization is handled similarly for 50 per cent of regular charges. Main objection is the formality required for approval which results in much charity work.

Ellis County: County commissioners in that county have insisted that all indigent medical care shall be handled by the county physician. Except where case workers can persuade the commissioners to have the county physician handle particular KERC cases, these and many others are cared for by physicians without remuneration.

Franklin County: All physicians participate in a plan whereby 50 per cent of fees are paid by the county commissioners for work authorized. No distinction is made between work and direct relief, and the plan is operating satisfactorily.

Kingman County: Outside of cases attended by the county physician, no payment for indigent medical care is allowed except \$35.00 for major surgery when approval is secured. The county commissioners have proceeded on a theory that other attention should be included in relief budgets which has not produced reimbursement for physicians inasmuch as extra funds can not be provided in the budget or are spent elsewhere.

Mitchell County: Drugs, hospitalization and nursing obligations are paid from the county poor fund as rendered. Medical care, when bills are allowed, are usually arbitrarily reduced to 50 per cent. Last year \$2141.65 was paid by the county for professional services which included a school immunization campaign. Major objection is the number of cases disapproved.

Osborne County: Contracts are furnished individually to physicians which provide that if approval is secured from the county poor commissioner fees of \$1.00 for home calls, \$0.50 for office calls, \$0.12 $\frac{1}{2}$ per mile outside of town for mileage, \$3.00 for anesthetics, and \$10.00 for obstetrical cases are to be allowed. No payment is permitted for minor or major surgery, but \$2.00 per day is allowed for hospitalization. No differentiation is made between KERC workers and direct relief. The plan has proven extremely unsatisfactory since fees do not permit reimbursement for costs, and as surgery and attention to persons not approved must be handled gratuitously.

Sedgwick County: Free clinics and indigent medical care through coöperation of the medical society, county commissioners, chamber of commerce and the community chest have been consolidated into a rotating charity staff plan. Applicants are approved by a bureau for purposes of determining whether they are actually indigent. Care is administered by a rotating staff of members at the county

hospital. Payment of \$200.00 per month is made to the society. The plan has operated satisfactorily.

Smith County: A county physician receives \$90.00 per month for which he cares for the county health work, and all indigent cases in the city of Smith Center. Outside of Smith Center he receives 40 per cent of his regular fees. Surgery is authorized in emergency cases for which a county surgeon receives 50 per cent fees. A private hospital is operated for indigents by a registered nurse who receives \$25.00 per week. Frequently cases are sent to Bell Memorial Hospital. Other physicians receive 50 per cent fees on authorized cases. November payments in the county totaled \$740.00 for medical care, and present plans are said to be satisfactory.

Washington County: A county physician receiving \$150.00 per year plus an allowance for medicine and mileage cares for the majority of cases. Except in a few instances where the county poor commissioner authorizes other physicians to assist for a 25 or 50 per cent fee, the remainder is charitably handled. Surgery and hospitalization are paid only by agreement in advance, and \$25.00 is allowed for major operations, \$5.00 for anesthetics, \$5.00 for x-rays, and \$2.00 per day for hospital care. Generally, only the most serious cases are approved for payment. KERC workers are a major problem since 20 per cent of the families in that county are receiving relief.

Representatives of the Kansas Medical Society are holding conferences with KERC officials, and considerable other activity is being devoted toward making more satisfactory plans available.

MEMBERS

Dr. L. G. Allen, Kansas City, returned recently from a meeting of the Radiological Society of North America at Memphis, Tenn.

Dr. A. J. Anderson, Lawrence, was reelected as chief of staff of the Lawrence Memorial Hospital at a meeting, December 12. Drs. H. T. Jones and L. S. Powell, Lawrence, were respectively elected as assistant chief of staff and secretary.

Drs. C. D. Baird, W. E. Janes, and W. S. Moonlight, Eureka, assisted Dr. Clifton Hall, Topeka, in conducting a free tuberculosis clinic at Eureka on December 6. One active case, one inactive case, and nineteen negative cases were found. Thirteen cases were placed under observation.

Dr. Andrew P. Brown, who located in Alton following his graduation from Kansas University Medical School in 1932, moved his office to Osborne on December 1.

Dr. Marjorie G. Eberhart resigned her position on the student health department staff at Kansas State College, Manhattan, to become head of the physical education department at Central Normal College, Danville, Ind.

Dr. Clifton Hall, Topeka, assisted in a free tuberculosis clinic at Eldorado, December 4-5.

Dr. Arthur Hertzler, Halstead, has been invited to appear on the program of the Southeastern Surgical Conference to be held in Jacksonville, Fla., on March 11-12-13.

Dr. E. F. Morris, Hays, is supervising a routine physical examination campaign for high school students in that city.

Drs. C. C. Nesselrode and L. F. Barney, Kansas City,

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COUNCIL ACCEPTED

THEOCALCIN

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attended the meeting of the Western Surgical Association at St. Louis, Mo., December 6-9.

The Journal office received a letter from Dr. Ludwig Frank, Jerusalem, Palestine, on December 15, requesting a copy of an article by Dr. E. G. Padfield, Salina, on Congenital Hypertrophic Pyloric Stenosis which appeared in the January, 1934, issue of the Journal.

Dr. H. R. Ross, Topeka, addressed a meeting of the Parent-Teacher Association, and high school students at Argonia on November 20. He also spoke at meetings of the Oak Grange, Topeka, on November 30, and of students of a business college, Topeka, on December 11.

Dr. A. L. Spafford, St. Paul, has reenlisted for another six months as physician for the CCC camp at Toronto.

Dr. C. Omer West, Kansas City, attended the meeting of the Mississippi Valley and Southern Dermatological Societies at San Antonio, November 4-8.

COUNTY SOCIETIES

The Allen County Medical Society elected new officers at a meeting in Iola on December 28. Dr. F. L. B. Leavell, Iola, will be president; Dr. O. R. Christian, Iola, vice president; Dr. C. B. Stephens, Iola, secretary; Dr. J. T. Reid, Iola, treasurer; Dr. R. R. Nevitt, Moran, delegate; Dr. J. T. Reid, Iola, alternate delegate; and Dr. A. R. Chambers, Iola, censor.

Dr. L. F. Barney, Kansas City, and Dr. C. C. Conover, Kansas City, Mo., attended a meeting of the Anderson County Medical Society in Garnett on December 19. Dr. Barney spoke on the history of domestic and foreign medicine, and Dr. Conover showed pictures and slides concerning "Progress of Internal Medicine."

A meeting of the Atchison County Medical Society was held at Atchison on December 4. Dr. Horace Carle, St. Joseph, Mo., gave a paper on "Hypoglycemia", and Dr. Charles Greenburg, St. Joseph, Mo., on "Trans-Urethral Prostatectomy". A visitor, Dr. Ralph Byrne, Cleveland, O., and members of the society discussed the papers.

The Barton County Medical Society held a dinner meeting for members and their wives at Hoisington on December 6. Following the dinner, officers were elected for next year with Dr. T. J. Brown, Hoisington, reelected as president, and Dr. L. R. McGill, Hoisington, reelected as secretary. The wives attended a movie during the business meeting.

Members of the Bourbon County Medical Society held an annual banquet and election of officers at Fort Scott on December 17. Officers elected were: Dr. R. L. Gench, Fort Scott, president; Dr. R. J. Dittrich, Fort Scott, vice president; Drs. J. J. Cavanaugh, R. O. Crume and J. R. Newman, Fort Scott, censors; and Dr. J. R. Pritchard, Fort Scott, delegate. Drs. C. C. Conover and E. R. Deweese, Kansas City, Mo., discussed signs and symptoms of early tuberculosis, and illustrated their talks with films and pathologic slides.

The Brown County Medical Society met in Hiawatha on December 7. Decision was made that county cases will be cared for on a fifty per cent fee basis with a minimum fee of \$1.50 per call, and 10c per mile for mileage. Plans were also outlined for a county subsidized immunization

campaign. Officers elected for the new year are: Dr. W. G. Emery, Hiawatha, president; Dr. Van Curtis Van Voorhis, Robinson, vice president; Dr. C. A. Wyatt, Holton, secretary; and Dr. R. T. Nichols, Hiawatha, censor.

Members from Ellsworth, Russell and Ellis counties attended a meeting of the Central Kansas Medical Society at Russell on December 13. Dr. Ralph Fellows, Topeka, and Dr. G. Wilse Robinson, Kansas City, Mo., appeared on the program. Dr. F. S. Hawes, Russell, was elected president for 1935; Dr. F. K. Mead, Hays, secretary; and Dr. C. H. Jameson, Hays, censor.

Dr. E. C. Duncan, Fredonia, was a guest speaker at a meeting of the Crawford County Medical Society in Pittsburg on December 6. New officers were elected as follows: Dr. W. S. Swart, Girard, president; Dr. C. M. Gibson, Pittsburg, vice president; and Dr. C. B. Bell, Pittsburg, secretary.

Dr. R. H. Hertzler, Newton, was elected president of the Harvey County Medical Society at a meeting in Newton on December 3. Other officers elected were: Dr. A. G. Westfall, Halstead, vice president; Dr. A. S. Hawkey, Newton, secretary; Dr. E. E. Peterson, Halstead, delegate to the state meeting; and Dr. R. S. Haury, Newton, censor. A scientific program was presented consisting of a paper by Dr. Wm. F. Schroeder, Newton, on "Osteomyelitis"; a case report by Dr. L. E. Peckenschneider, Halstead, on "Von Gierke's Disease"; and two case reports by Dr. David C. Stahlman, Potwin, on "Secondary Anemia".

At a meeting of the Leavenworth County Medical Society on December 3 the following officers were elected: Dr. A. R. Adams, Leavenworth, president; Dr. W. L. Pratt, Leavenworth, vice president; Dr. A. A. Gausz, Leavenworth, secretary; and Dr. A. J. Smith, Leavenworth, censor. Selection of a delegate to the state meeting was postponed until later in the year.

The Lyon County Medical Society held its annual meeting and election of officers in Emporia on December 4. Dr. David R. Davis, Emporia, was elected president; Dr. C. F. Hoover, Staffordville, vice president; and Dr. C. H. Munger, Emporia, secretary. Afterward Drs. J. B. Brickell, and D. L. Morgan, Emporia, presented papers. On December 18 the society members were guests of St. Mary's Hospital, Emporia, at which meeting case reports were discussed by Drs. Clyde Wilson, H. W. Manning and C. S. Trimble, Emporia.

A program consisting of papers by Dr. H. P. Kuhn, Kansas City, Mo., on "Gall Bladder Risk, Operability and Convalescence", and by Dr. E. H. Skinner, Kansas City, Mo., on "Malignancies of the Mouth" was presented at a joint meeting of the Mitchell County Medical Society and Community Hospital Staff in Beloit on December 14.

Drs. J. E. Henshall, Osborne, O. J. Hartig, Downs, Andrew Brown, Osborne, were respectively elected president, vice president, and secretary of the Osborne County Medical Society at a dinner meeting in Osborne on November 30. Dr. J. D. Johnson, Alton, was appointed censor, and Dr. S. J. Schwaup, Osborne, as delegate to the state meeting. Dr. B. F. Chilcott, Osborne, an organizer of that society in 1904 was present at the meeting.

The Saline County Medical Society held its annual meeting at Salina on December 20, preceded by a dinner in honor of the retiring president, Dr. Harold Neptune,

"WE herewith report a successful attempt to measure objectively the irritant properties of cigarette smoke. We used the conjunctival sac of rabbits according to the technic of Hirschhorn and Mulinos . . . We have limited this first investigation to the influence of the 2 hygroscopic agents usually employed in the manufacture of cigarettes."

*"Influence of Hygroscopic Agents
on Irritation from Cigarette Smoke."*

—Proc. Soc. Exp. Biol. and Med., 1934,
32, 241-245.

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Salina. Officers were elected for 1935 as follows: Dr. Ned Cheney, Salina, president; Dr. C. M. Jenney, Salina, vice president; Dr. O. R. Brittain, Salina, treasurer; Dr. K. Druet, Salina, secretary; Dr. C. D. Armstrong, Salina, censor; and Drs. E. G. Padfield and Harold Neptune, Salina, delegates to the annual meeting. Reports were received from state meeting committees, and Dr. Leo Schaefer, Salina, was appointed to investigate the advisability of securing an official society attorney to assist in handling fees involved in settlement of estates.

An unusually good attendance marked the regular December meetings of the Sedgwick County Medical Society. Drs. H. R. Wahl and Ralph H. Major, University of Kansas, addressed the society on December 4. The annual joint meeting with the auxiliary was held on December 19, and Dr. Logan Clendening, University of Kansas, was guest speaker. Prominent citizens of Wichita were invited to the latter meeting as guests of the society, which was an innovation so successful that it will probably be continued in future years. Also, officers were installed consisting of Dr. G. F. Corrigan, Wichita, as president; Dr. E. E. Tippin, Wichita, as vice president; Dr. Wilfred Cox, Wichita, as secretary; and Dr. A. W. Fegtley, Wichita, as treasurer. New members of the board of directors are Drs. G. B. Morrison, H. F. Hyndman and H. E. Marshall, Wichita. Dr. Corrigan outlined a list of projects to occupy the attention of the organization during the coming year.

Dr. W. L. Bierring, Des Moines, Iowa, was a guest of Shawnee County Medical Society at its annual dinner meeting in Topeka on December 3. Dr. Bierring presented a movie depicting A.M.A. headquarters, and spoke on "The Educational Function of the A.M.A." A large number of members and their wives attended. Also Dr. M. L. Perry, Topeka, was elected as president for 1935, and Drs. J. H. O'Connell, M. B. Miller, Earle G. Brown and M. G. Sloo, Topeka, were elected as vice president, treasurer, secretary, and censor, respectively.

A program consisting of the following speakers and subjects was given at a meeting of the Southeast Kansas Medical Society at Fredonia on December 13: Dr. A. N. Lemoine, Kansas City, Mo., "Congenital Syphilis and Treatment by Hyperpyrexia"; Dr. Fred J. McEwen, Wichita, "Myocardial Failure"; Dr. Eugene Lacy, Kansas City, Mo., "Recurrent Mastoiditis"; Dr. S. A. Grantham, Joplin, Mo., a movie on "Joint Surgery"; and Mr. A. N. Tracewell, Kansas City, Mo., "The Crazy Doctor".

The Washington County Medical Society met at Hanover, on December 11 for election of officers. Dr. Z. H. Snyder, Greenleaf, was elected president; Dr. V. J. Wall Mahaska, vice president; and Dr. D. A. Bitzer, Washington, as secretary. Also an informal discussion was had over current problems.

Two regular meetings of the Wyandotte County Medical Society were held at Kansas City during the month of December. On December 4, Drs. H. R. Wahl and R. W. Kerr, University of Kansas, presented pathological conferences on "Melanosarcoma of the Liver" and "Ovarian Carcinoma with Peritoneal Metastases". Also Dr. Thomas G. Orr, University of Kansas, gave a paper on "Appendix Peritonitis" which was discussed by Drs. F. S. Carey, H. W. King, and W. H. McKean, Kansas City. A meeting on December 18 was devoted to election of officers and a business session. Announcement has been made that in 1935 four meetings will be held each month

as follows: 1st Wednesdays at Wyandotte County Court House, 2nd Wednesdays at St. Margarets Hospital, 3rd Wednesdays at Providence Hospital, and 4th Wednesdays at Bethany Hospital.

MEDICAL SCHOOL

An unnamed graduate of the University of Kansas has contributed \$60,000 for the construction of a building to be used for a Children's Clinic. Dean H. R. Wahl, Dr. Frank C. Neff, Professor of Pediatrics and other members of the Medical School faculty are now making plans for this addition which they hope will be ready for occupancy the latter part of this year.

Dr. H. R. Wahl attended the meeting of the Association of American Medical Colleges held October 29-31 at Nashville, Tennessee.

Dr. Thomas G. Orr attended the meeting of the Visiting Surgeons Club at Ann Arbor, Michigan, on November 23.

The following members of the medical school faculty attended the meeting of the Western Surgical Association held in St. Louis, Missouri, on December 6-8: Drs. Thomas G. Orr, Frank R. Teachenor, Earl C. Padgett and Lawrence P. Engel.

Dr. Ralph H. Major and Dean H. R. Wahl were guest speakers of the Sedgwick County Medical Society on December 4. Dean Wahl gave the history of the Medical School and Dr. Major talked of the Island of Cos, one of the places he visited while abroad.

Dr. L. R. Calkins was the guest speaker at the meeting of the Riley County Medical Society on December 28. His subject was "Occiput Posterior".

Dr. Ralph H. Major has been invited to deliver the lectures at the Scripps Metabolic Clinic on January 10-11 at LaJolla, San Diego, California.

Drs. Buford Hamilton, H. F. Vanorden and L. A. Calkins attended the meeting of the Central Association of Obstetricians and Gynecologists held in New Orleans November 1-2-3. Dr. Hamilton is President-Elect for 1935.

NEW BOOKS RECEIVED

PERIODIC FERTILITY AND STERILITY IN WOMEN, by Dr. H. Knaus, Vienna, Austria. Published

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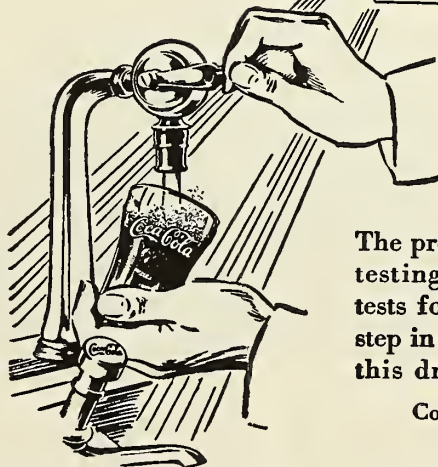
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IT HAD TO BE GOOD TO GET WHERE IT IS

ber board of consultants of Massachusetts General Hospital, and Lloyd T. Brown, M.D., Loring T. Swain, M.D., John G. Kuhns, M.D., of Harvard Medical School. Published by J. B. Lippincott Company, Philadelphia, at \$4.00 per copy.

MORBIDITY REPORT

New communicable disease cases in the state as compared with last month are reported by the Kansas State Board of Health as follows:

Disease	Month ending December 22	Month ending November 24
Measles	973	299
Chickenpox	625	466
Scarlet fever	278	255
Pneumonia	198	90
Whooping cough	191	219
Syphilis	145	133
Mumps	126	108
Gonorrhea	110	91
German measles	77	10
Tuberculosis	70	48
Diphtheria	37	70
Smallpox	9	3
Typhoid fever	7	20
Meningitis	7	1
Influenza	7	4
Cancer	6	16
Pink-eye	4	0
Vincent's angina	4	6
Undulant fever	4	5
Scabies	4	0
Encephalitis	3	2
Poliomyelitis	2	10
Tularemia	2	2
Tetanus	1	0
Rabies	1	0

TWENTY-FIVE YEARS AGO

Excerpts From Journal, January 1910

An editorial on "maternal impressions" lists several prominent obstetricians of textbook fame who still cling to this type of "sewing circle science". The editor discusses the idea in a quite logical manner and puts his hearty disapproval on this superstition.

"In this period of advanced prices and increased cost of living it may not be out of place to call attention to the justice of increased fees for the doctor."

"Whooping cough and measles kill twenty times as many Kansas people annually as smallpox."

"Kansas was the first state to abolish the common drinking cup on railway trains and in public schools. Five other states have since followed. The latest to join the procession being the young giant Oklahoma."

KANSAS MEDICAL AUXILIARY

Members of the Brown County Auxiliary met at the home of Mrs. R. T. Nichols, Hiawatha, on December 7. Election of officers was postponed until the January meeting by reason all members were not present. Mrs. Paul Conrad, Hiawatha, outlined plans for the new year, and a scrap book for exhibition at the Salina state meeting consisting of historical and descriptive material was discussed. Mrs. A. Donahue, Los Angeles, Calif., and

Mrs. E. A. Dearborn, Manhattan, were guests present. Later, members of the Brown County Medical Society joined in a social hour, and Mrs. Nichols, assisted by Mrs. Conrad, served refreshments.

The Labette County Auxiliary held a recent meeting at the state hospital, Parsons. Dr. Earle G. Brown, Topeka, was the speaker on a subject of "Accidents". Forty-five members were present.

OTHER SOCIETIES

The second of a series of notes obtained by the Executive Secretary on a trip to other medical societies.

Wayne County Medical Society: One of the most interesting county medical societies in the country is said to be that of Wayne County, Michigan, with headquarters at Detroit. Acute industrial problems, and other difficulties of so large a metropolitan center have seemingly been well overcome with excellent organization.

Membership averages approximately 1400 which is larger than many state societies. Dues are \$26.00 per year consisting of \$17.50 local and \$8.50 state assessments. Efficiency seems to be demonstrated in the fact that membership has to no degree suffered through the depression.

Offices of the organization are located in a residence formerly a show place of Detroit. Rent is \$1.00 per year by reason the owner chose to vacate the property after the house was surrounded by the outlying business portion of the city, and as he could save appreciable taxes by offering it for a non-profit use. Arrangement is in club fashion. A dining room is maintained for members, and ample space is available for parties, meetings, and executive offices.

Government is by a board of trustees, a president, and a council who have concurrent authority in matters delegated to their respective jurisdiction. In addition are thirty-three boards and committees whose action must have council or trustee sanction in matters of policy or expenditure of funds. Executive action is through a lay executive secretary, Mr. William Burns, who has been an employ since 1930. Other personnel is composed of a man assistant secretary, a man in charge of a medical service bureau, a man in charge of a credit and collection bureau, an advertising representative, and four stenographers.

Meetings are held weekly from October to May each year. Programs consist mainly of local speakers with a few invited from out of town.

An important project is an experiment which has attracted national attention due to its possible answer to the question of sickness insurance. The Pino Plan, as it is called, provides for managed credit and installment purchase of hospitalization and medical care among the lower wage brackets. A bureau owned and supervised by the society interviews patients in this classification referred by their physicians in advance of treatment. Family physician-patient relations are strictly maintained, no carrying charge is made, and it is intended through friendly assistance to arrange all cases in a manner that will be satisfactory to all parties. Further theory is that definite understanding on the part of patients, arrangement of payment plans by an expert in that line plus organized follow-up and close relations with employers tends to provide a means of payment for all persons except the unemployed. The profession, hospitals, druggists, and recipients have

(Continued on Page 42)

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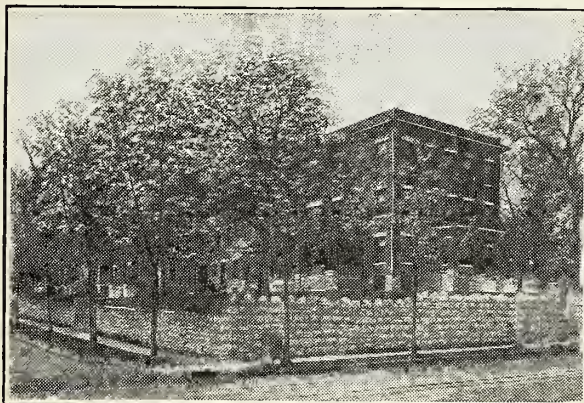
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coöperated to the extent that \$50,000 in business has been transacted during brief operation of the plan with only three actual losses in 900 cases.

Considerable activity has existed in medical care of indigents through FERA assistance, and the executive secretary is the health coordinator in that territory for the state relief organization.

Radio has been utilized for several years in public health education. The two largest stations in Detroit give time gratuitously, and weekly programs are presented by different members of the society. All talks are ended with an invitation to call the headquarters for authentic information on medical subjects which has brought unusual response by letter and telephone.

A credit and collection bureau is operated by private management, but under franchise and control of the society. The manager pays one per cent of gross collections for the privilege. This system is said to be more efficient than a former plan where the bureau was entirely operated by the society.

Until recent years a laboratory was operated for members, but was discontinued through lack of further necessity in that it produced well managed private laboratories.

A publication consisting of news items and medical economic subjects is issued weekly through assistance of an editorial board. Arrangements have been made with a printer whereby the society solicits all advertising, and the printer receives as compensation all receipts excepting an agreed percentage which has run as high as eight per cent.

Foremost committees and activities are as follows: A committee on public health relations has assisted county health officers in many ways, and has arranged for city immunization campaigns thru family physicians rather than free clinics. An ethics committee curtails unfair practice, and acts through recommendation to the council which results in warning or expulsion. A public policy committee acts in all legislative functions, approves lists of candidates for election, and attends state legislature meetings. Radio talks and speakers for lay groups are provided by a committee on public health information. A cancer committee is financed by the city board of health, and provides no clinics, but disseminates public data, and compiles statistics. Industrial contract practice, factory medicine, and workmen's compensation are assigned to a committee on industrial relations. A medical civic relations committee deals with practice of medicine by hospitals, health insurance schemes, and allied problems. Library service is maintained by a library committee through coöperation with the city library. Programs for weekly meetings are sponsored by a program committee. Maternal welfare is studied by a committee. A joint committee with the Detroit Bar Association has given assistance in difficulties of expert testimony and subpoenas at inconvenient hours. Social events, parties and women's auxiliary activities are supervised by an entertainment committee. A house committee operates the cafe and headquarters.

Office records and personnel are efficiently organized. Complete biographical records are kept for all present and past members. Quack and irregular files are complete. Bulletins and questionnaires are used frequently.

MISSOURI STATE MEDICAL ASSOCIATION: This organization dating back to the Civil War has its headquarters in St. Louis, Mo., and employs in addition to Dr. E. J. Goodwin, full time secretary, a lay assistant, Mr. E. H. Bartlesmeyer, and three young women.

Membership totals approximately 3200 each year, and dues are \$8.00 per member. A general fund budget for 1934 listed estimated expense at \$25,700.

Their journal is accounted separately, and 36.88 per cent of salaries is charged into that fund. Until depression years it has been profitable, and since has reflected a moderate loss each year.

Committees are active, and are assigned definite projects and functions. A committee on scientific work outlines and arranges state meeting programs. One in charge of post graduate courses selects speakers, itineraries, programs, and handles arrangements with county societies. A publication committee oversees policies of the journal. One for public policy directs legislative activity. A committee administers defense. Public health education and assistance to hospitals and medical schools are delegated to a committee on medical education and hospitals. Medical economics has been an active phase of committee work, and considerable assistance has been given during the past year on medical relief. A cancer committee has extensively engaged in professional and public information.

One of their most important projects is said to be post graduate courses which have been sponsored by the association for many years. A sizeable amount is spent annually to bring speakers of prominence to county societies.

The greater part of their legislative activity has been in pointing out defects in proposed laws rather than endorsing adoption of new legislation. An exception to this policy occurred in 1934 when a lien enactment establishing physicians fees as first liens was sponsored and defeated. No basic science law exists in the state.

By-laws of the association provide that any fully paid member may receive defense aid to the extent of \$300. No official defense attorney is employed, and members are asked to make their own selection through belief that local attorneys have better results before juries. Payments from the defense fund are made upon completion of suits, and are based upon expenses incurred.

The journal is directly under the supervision of a publication committee with Dr. Goodwin as editor. It consists of approximately seventy pages per issue, has considerable data in addition to scientific material, is of good appearance, and interestingly written.

Their office is well systemized and equipped. An accounting system was established by a firm of certified public accountants, and annual audits are required by professional auditors. Bulletins are extensively used. Checks are prepared by the bookkeeper, approved by the secretary, and then forwarded to the president and treasurer for final signatures. An interesting scrap book of favorable and unfavorable information is maintained from newspaper and magazine clippings which is said to be of considerable assistance. Books received for review, totaling as many as one hundred per year, are distributed to county societies maintaining libraries.

EXCHANGES

One of the peculiar effects of the depression of the past several years is the complaint of physicians, the country over, at the failure of many patients to make payment for services rendered with the same degree of care that is ordinarily given to the settlement of average accounts.

It seems to be taken for granted, in many cases, that the physician must take his place at the bottom of the list

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and await his turn for payment, with the result that in many instances no payment is made at all.

The question is one that is attracting widespread attention of physicians, and it seems to be one about which there can be but one side, for certainly no reasonable man can argue that a physician is not entitled to the same consideration in the matter of compensation for service as is accorded other lines of business.

The average businessman has little patience with one who owes him a sum of money over a period of a year, and at the end of that time had paid neither interest nor principal. Ordinarily, where doubt exists, such a condition is prevented by requiring collateral in the beginning, and by collecting interest in advance. Then if payment is not made, the collateral takes care of the loan.

Time and skill represent the doctor's business capital, available at fixed rates. If he does not collect on his investment, he must either fail to meet his own obligations or borrow money and pay interest monthly to keep his credit standing or to retain his insurance or property, as the case may be.

Yet he requires no collateral for his services. The doctor does not refuse his capital to anybody, and in consequence it is drawn upon much more freely than monetary capital. If his patients cannot pay his work becomes charity. He does not even limit the use of it. In case of a sudden attack, the doctor doesn't tell you that you must get sick only between 9 a. m. and 2 p. m., except Sundays and holidays. Or that you already owe him \$50 and it would be unbusinesslike to give you any more time until you had liquidated the debt. Or that he could not risk missing a call from X, Y or Z, who pay their bills promptly.

The doctor's foremost consideration is the welfare of his patients. He frequently carries the responsibility of life and death. But in too many instances he has the additional heavy tax of worry over his financial obligations. He cannot let a patient lose his life because he will not pay his bill; it would not be humane. But if his insur-

ance or his home is at stake—well, that's just a business proposition.

A large amount of charity work is the inevitable lot of all doctors. They are too frequently imposed upon by those who can pay, but will not.—The Constitution, Atlanta, Ga.

With the coming of the new year there is the omnipresent spectre of payment of dues confronting your county society secretary. In the larger societies this becomes a task, this thing of having payment of dues strung out over a period of a full year. Paraphrasing a Pillsbury ad—"Eventually (you mean to pay your dues), why not NOW?" The sinews of war will be needed this good year of 1935 as never before; prompt payment will not only make you feel better but will hearten your officers, both local and at headquarters, no end. Cheer up your secretary by remitting the annual payment *right now*.—Jnl. Ind. Med. Assoc.

ANNOUNCEMENTS

A post graduate clinic in "Neuropsychiatry in General Practice" will be held at the Menninger Clinic, Topeka, April 15-20 inclusive. Lectures, case studies, and seminars included in the five and a half day course will be exclusively directed to the application of modern neuropsychiatric principles to the cases which the general practitioner frequently sees in this field.

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Superintendent

THE JOURNAL

of the

Kansas Medical Society

VOL. XXXVI

FEBRUARY, 1935

No. 2

CANCER OF THE RECTUM*

J. L. JELKS, M.D., F.A.C.S.

Memphis, Tenn.

In this article you will observe a divergence from orthodox, and the chief defense of my heretical views may be that of a woman, namely: the first and last word.

A sad picture is that among those in this audience of several hundred adults, 10 per cent will die of cancer. This is an appalling statement.

A great cancer educational campaign has been in progress several years. The layman is already cancer minded and watches the lump in the breast, the skin mole, the small painful tumor on the tongue or leukoplakia in the mouth or metrorrhagia and the return of staining after the menopause. Yet he remains ignorant of a very prevalent situs of cancer; cancer that is so insidious in its early stages as to cause few symptoms. Cancer of the rectum is so often overlooked by the profession until hopeless. I hope to stimulate a more careful study of gastro-intestinal cancer by those who will follow my contentions and suggestions as to assembling statistics sufficiently comprehensive from which to draw conclusions. I should not be so dogmatic as to attempt conclusions from perhaps 200 cases. But even an erroneous opinion, if the unbiased scientific investigations of my beloved profession later reveals, can only result to the welfare of man because I have stimulated investigations.

Says Dr. Dudley Smith of San Francisco: "Cancer of the anus, rectum and recto-sigmoid constitutes about twelve per cent of all cancers in the human body and about eighty per cent of intestinal cancer." Patients put off going to the doctor for rectal symptoms, because they have been told that examinations of the rectum are very painful. This impression can be laid directly at the door of the physician because of the unnecessary pain so often inflicted. He further states the general impres-

sion that blood from the rectum means hemorrhoids. Physicians, students, nurses and the public should consider that blood from the rectum means cancer until cancer is ruled out.

Dr. Ernest Miles, chief surgeon of the London Cancer Hospital, in his address before the London Medical Society in 1925, stated that the type of carcinoma occurring in the rectum and rectosigmoid is adenocarcinoma.

There are three clinical varieties differing in physical characteristics and degree of malignancy. Namely: the papilliferous, the common adenocarcinoma and the colloid. The papilliferous type resembles an ordinary simple papilloma, extends rapidly upon the surface and soon involves the whole circumference of the bowel. Owing to the exuberance of the growth, the lumen of the bowel becomes obstructed before infiltration of the muscular coat has progressed to any considerable degree. These growths are not particularly malignant and seldom give rise to extra mural metastasis unless they have been in existence for a considerable time.

The great majority of cancers of the rectum are the common adenoid type. Usually the surface of the growth is a flattened tumor which increases in size in all directions, and although at first freely movable upon the muscular coat, soon becomes adherent to it. This occurs probably within a few months. As the growth increases, surface ulceration occurs and bleeding begins. As more of the surface circumference of the bowel becomes involved, the ulcer deepens and assumes a crater like form with nodular everted and indurated edges. These growths commonly encircle the entire circumference of the gut in from twelve to eighteen months.

The colloid or mucoid type of carcinoma is merely a degenerative stage of the preceding variety. Cancers originating in the anal canal are of the squamous type.

Metastasis, or spread, in rectal cancer is in three ways. First, by continuity of tissue; second, through the venous channels and third, through the lymphatics. There is always a precancerous stage to all cancers of the rectum

*Read at a meeting of Kansas State Medical Society at Wichita, Kan., May, 1934.

as elsewhere, and I insist that physicians should no longer be so derelict that fifty per cent of all rectal cancers are inoperable when the proctologist or the surgeon who operates them is permitted to see them.

Frequently patients ask if their rectal disease might become cancer. Even though it be a fistula, an anal ulcer or a proctocolitis, it may, through neglect, become cancer.

You will recall the reference in my previous address to the points in the gastro-intestinal tube where there is stasis, spasm and traumatism, and that these are the locations of pathological processes. Few of my cases have involved the colon above the rectosigmoid. The cecum has been the seat of cancer in only two cases. The etiology and every factor which seemed to be of etiological significance have been of interest to me; therefore, I am giving these observations for whatever may appear rational and worthy of statistical compilation.

An irrefutable fact is that we, or many of us, look without seeing, or seeing we fail to define or observe without finding the many otherwise common-place facts. Hence valuable contributions to the welfare of man pass from generation to generation. This has been the story of cancer. A simple illustration is the fact that though we have all been to the circus, and have looked with interest and sometimes with awe at the large collection of animals from the uttermost parts of the earth, yet I dare say that there are many in this audience who do not know the number of toes on the feet of an elephant.

A young lady once said to me when I was a young man, "It is the little things in life that count most with a woman." And now might I add that it is the little things that escape the casual observer which may, and I believe, do play an important role in the causation of intestinal cancer.

You will remember my statement that Dr. Dye in the Belgian Congo for thirty-five years, and Dr. Webber, another medical missionary in equatorial Africa forty years, had never seen a cancer among those tribes. If the half of this statement be true, and I do not doubt any of it, surely we have been overlooking some very important something. You who heard my address this morning have the answer already. Focal septic infection in which streptococci plays the chief role, or amebiasis or both, have been demonstrated by me in all cancers of the

large intestine that it has been my privilege to examine.

If this is simply a coincidence without significance, it is at least interesting. I truly believe that when the medical profession is fully awake to the importance of this ravaging streptococcus, it will have gone a long way in the solution of the cancer problem. This granular beefy red rectosigmoid mucosa, with its marked spasm and more or less hyperplasia, will not get well unless we get rid of the focal septic infection above, which is constantly passing down for transplantation. That area, if not properly treated, must be a most likely situs for the development of cancer.

Having observed this hyperplasia in all degrees at this most prevalent situation of cancer of the intestine, I am convinced that septic infection plays a most important role. As I retrospect my cancer case histories, I make another interesting observation, namely: A number of my rectocolonic cancers developed on chronic amebic ulcerated areas of the rectum or colon. This chronic amebic ulceration had resulted in glandular hyperplasia and adenomatosis. Seldom these adenomata appear singularly, and I removed as many as a hundred of them at one time for a patient. He had suffered a most serious amebic ulceration of the colon, and died of cancer of the colon.

I will show you another case of chronic amebic ulceration and resulting multiple adenomata, that came into my hospital care from Atlanta, Ga., only a few days before he died of metastatic cancer of the lungs. The saddest picture of cancer anywhere is cancer of the rectum. It is so insidious the precancerous lesion is not felt or seen, and the fact remains that doctors have patients present themselves complaining of a little change in intestinal habits, a little unusual constipation, a little occasional loose bowels, or the passage of a little mucus or blood or both, and often times doctors have false ideas of the false modesty of their patient, when their reasonable service would be at least a careful digital examination of the rectum, and if the patient is in the so-called "cancer age", should include also a procto-sigmoidoscopic examination.

When there is an inflammatory spasm at the rectosigmoid, there will likely be spasm in the ileocecal valve area, and in some early cancers in this area the slight pain and discomfort is experienced there only.

One of the greatest surgeons of this genera-

tion suffered thus, and his metastasis in his lungs was the first clue to the true nature of his ailment. I discovered this referred pain in the ileocecal region when some years ago it was produced by a clip I applied to the upper valve of Houston.

I have actually performed proctectomies and saved two late rectal cancer cases, which had been operated two and four months respectively previously for hemorrhoids by able surgeons. Less than a month ago I removed the rectum for a lady who never noticed a symptom until two months before, and that was a little unusual constipation; and two weeks before, presenting herself for examination by her family physician, she had noticed a little sanguino-muco-purulent passage three or four times per day. Her physician very promptly referred her to me, and I found a very late cancer.

After witnessing a proctectomy for rectal cancer by Sir Gordon Watson in London and we had retired for tea, I said to him, that I had made an observation which I hated to admit, and when he inquired what it was, I told him he had either better doctors in England, or he and others had induced the doctors in England to make earlier examinations and refer their cases earlier for operation, and that at least fifty per cent of my cases were hopeless when I first saw them.

My attention on several occasions has been called to the treatment by the general practitioner and the gastro-enterologist of achylia gastrica, in these cases thorough examinations including gastro-intestinal x-Ray series were made, yet a few simple facts were overlooked. First, the patient was in the "cancer age" from twenty to one hundred years, losing weight and strength. Questioning elicited a change in the intestinal habits, as Rankin aptly puts it. A little more constipated or a little mucous diarrhea had supervened after a period of constipation. There might have been noticed a more muddy complexion, and members of the family have been important incriminating witnesses in these references. Finally, no digital examination had been made, or if so, the cancer had evidently been mistaken for a prostate, or a cervix, or a fibroid, or the digital examination was not such as I insist upon which is as follows:

The patient is placed first in the lateral position with thighs flexed on abdomen. The well anointed gloved finger is inserted as high as possible, while the patient is instructed to strain

down as if to forcibly expel my finger. The contents of the pelvis thus come within touch. The patient is then required to stand in a moderately stooped position and the same procedure is gone through, and the sense of touch is drawn upon as the finger sweeps the gut circumference and by the latters, mobility, the pelvic cavity, including the sigmoid, may be palpated.

My experience in this grave disease goes to show the unreliability of both early symptoms, and in some instances digital examinations. Tumors of the rectum were twice mistaken by me as being cancer at first, when a history in both cases of having had the injection treatment of piles, revealed their true nature as tumors of chemically induced fibrosis surrounding pools of oil. Small adenomatous growths complicating chronic amebic ulcerations in some of my cases were already cancerous. These adenomata begin as small shot like processes of gland hyperplasia which may be single or multiple. Such a tumor may appear quite innocent, and by periglandular pressure become punched out and finally become polypoid, and may become devitalized and be broken off, while another or many others remain sessile. Then as Dr. Mummery states, "they do not all become cancerous because they don't have time; but sooner or later one or more will become cancerous."

A child with the sniffles (an allergic child) may develop polyposis. In fact I have removed a number of these tumors in the lymphoid type of children of three to ten years of age. In some of these cases we have a suspicion of a very near approach to malignancy. Some ask what is the cancer age. That is an arbitrary guess, and frankly I do not know. I have seen two young men each twenty-two with hopeless rectal cancer, and operated two women, twenty-five and twenty-six respectively.

I have already indicated that cancer of the large bowel is most often found in the recto-sigmoid portion. Rankin made in the Mayo Clinic explorations in one hundred consecutive cases of cancer, and found sixty-seven per cent of the growths were in the rectosigmoid and believes that the fact that here the longitudinal bands of the sigmoid flare out and encircle the bowel, has something to do with the most prevalent development of cancer in this locality.

The vast majority of rectal and anal cancers are adenocarcinomata, while melanomata fortunately appear to be the least frequent forms. This is the most malignant and appears usually

in the anus. It is in that fatal zone where any cancer must be operated early and by broad excision.

A man referred to me a week ago was seventy-four years old, had suffered a diarrhea for two months supposed to have been caused by a midnight supper. His doctor had been consulted two weeks later when he noticed his bowel actions were blood tinged. He had lost five pounds, as he thought due to his dieting and treatment for his diarrhea. He denied having suffered pain at any time. I could not palpate any pathology, but the sigmoidoscope enabled me to visualize a typical bleeding adenocarcinoma in the rectosigmoid area. I was able thus to report to his doctor that this old man was suffering a late cancer, involving two-thirds of the circumference of the bowel. That he was not even a fair risk on account of age, anemia and the necessity to perform the Miles' complete abdomino-perineal excision of his rectum and a part of his sigmoid. His doctor states that x-Ray examination seemed to indicate cancer.

I hope we have dealt at sufficient length upon etiology and symptomatology. As to diagnosis, all tumors in the rectum above the hemorrhoidal inch should be classed as suspicious tumors until either removed or biopsy has enabled the pathologist to give a definite negative answer. Myxomatous tumors in the pelvis should be most carefully and completely excised, as sarcomatous degeneration may take place. These are mentioned because general surgeons have referred three of them for me to operate, though I considered each should have been operated by the general surgeon as much so as a pilonidal cyst. Yet I have operated a number of them also, and should be subject to criticism by the general surgeon, who unfortunately though has never learned there is a place in the sun for a proctologist. All growths in the anus, rectum and sigmoid areas should be visualized, and this can only be done with the available modern proctoscope and sigmoidoscope.

If there remains a doubt of malignancy, a biopsy can easily be taken in most cases and frozen section examination give an immediate answer. I have already referred to tumors caused by injections of chemicals into the walls of the rectum, and I will show you another case that had all the macroscopic earmarks of a late cancer of the rectum, but which was due to blastomycosis. That woman's supposed cancer is well

except a resultant stricture. In another case diagnosed by palpation and visualization by myself and by an able pathologist was obstructive, involved four-fifths of gut lumen in a young woman. Therefore, I was constrained to do a complete abdomino-perineal excision at one time; this was an extensive papilloma. She is well and happy after three years, and I doubt anything else could have saved her life.*

Diverticulosis and diverticulitis we must always keep in mind when called upon to make a diagnosis in cases of acute obstruction of the colon. Dr. Mummery states that in small bowel obstruction, vomiting of the fecal type occurs almost from the onset of the crisis. Pain is usually well marked and often severe and there is usually little distension in the early stages. Such distension will be in the central part of the abdomen. In obstruction of the large bowel, distension is usually the chief symptom, and vomiting only occurs late. "Obstruction may be caused by acute cellulitic inflammation of a section of the pelvic colon due to diverticulitis." In one case an almost complete fibrous stenosis of the pelvic colon from the same cause was present, and in a number of cases diverticulosis of the pelvic colon was the cause." I operated on one case of diverticulitis with obstruction and rupture into the small bowel and into the peritoneal cavity. This case was diagnosed rectosigmoid cancer by an able surgeon. In another case I suspected sigmoid cancer and opened the abdomen with the purpose to perform a preliminary colostomy, but I excised the large diverticulum and was rewarded a good result. In another case the diverticulum ulcerated into the bladder, thus relieving the obstruction. Malignancy and death after one year resulted. This man also had chronic amebiasis.

TREATMENT

I am inclined to agree with Dr. McKenney of Buffalo who says: "One should never arouse a suspicion of cancer until a positive diagnosis has been made. There can be no greater shock to the average person than to be told he has a cancer." I may add that cancerphobia has the similar baneful effect to that of syphilophobia. And as Dr. McKenney further states: "The morale is at once shattered and all hope gone." The patient develops a disturbed metabolism, dehydration, hypochloremia and bacteremia. The urine will probably contain indican and acetone, and diacetic acid bespeaking further

*The woman whose extensive papillos-adenoma was not classed as cancer has developed a metastatic mass in the carotid region and lung metastasis.

trouble. Your patient is, by this time, unable to withstand the assault of so major an operation. It will then be days and perhaps weeks before an operation may wisely be attempted.

The x-Ray has no place in the treatment of cancer of the rectum and colon. Dr. Ernest Miles, chief surgeon of the London Cancer Hospital, said "He had never known it to cure any internal cancer, but he had known it to cause cancer." This has certainly been my opinion for years. The melanoma is said to be the most radiosensitive.

If the patient be young or plethoric, the spread of cancer will be earlier and more rapid and I always classify hopeful operability according to age, plethora and the extent of gut involvement by the cancer. Dr. Miles classifies them according to gut lumen involvement only, and says that if one-third of the gut lumen is involved the case is quite hopeful; if one-half the lumen is involved, the case is yet hopeful, but thereafter the mere hope which remains is in proportion to lumen involvement and hence involvement of other structures through which metastasis extends.

If the cancer is located at the rectosigmoid, the Miles' method or some modification of radical abdomino-perineal excision must be chosen. Miles demonstrated the importance of this method by showing the lymphatic gland involvement along the mesentery which must be divided down close to the base of the stalk.

In cancer which originates on a rectal valve or in one of the ampullae, if attack is made fairly early, the Mummery operation or some modification of this operation is the operation of choice because it is safer; or a simple perineal excision and bringing the gut down to form a new rectum at the normal situs. I split the perineum antero-posteriorly and carry the incision around the closed anus, dissect back the sphincter, and in three cases I recall, I excised the posterior wall of the vagina to be included in the removed mass. In two of these cases the cancer had ruptured through the recto vaginal septum to form a fistula. The peritoneum was opened in each, and the mesentery was ligated and excised as high up as possible. The gut was then brought down and the peritoneal diaphragm closed and attached to the gut by interrupted sutures. Here I wish to advocate the instillation of novacaine in the mesentery before clamping or pulling on it to any considerable degree, because I have noticed this is where you get shock. A patient will be doing

nicely until traction is made on the mesentery, then will suddenly show more or less severe shock. After the mesentery is divided a considerable portion of the sigmoid colon may be brought down. The fascia and other structures are then sutured around the rectum, and the sphincters and superficial structures are sutured. I then insert two large wick drains through stab wounds made external to the sphincters into the peri-rectal space, and a third drain is placed posterior to the gut into the cavity of the sacrum. The sphincters are gently sutured to the gut laterally, and the gut is clamped and excised with a cautery. The gut is now either ligated for forty-eight hours or a large catheter is immediately inserted and the end of the gut is tied around it. When the patient has recovered from the anesthetic, the catheter is attached to the drain tube and through it a saline proctoclysis may be given if desired.

Operations for cancer have been so standardized now that it seems unnecessary to enter into details as to preoperative and postoperative care. I must say, however, in closing it will be better judgment to sustain the patient and rebuilt the fagged resistance before subjecting a patient to the most major operative surgery that I have undertaken.

Further if the patient is weak and needs sustaining resistance it is my custom to give a transfusion of blood before operating, and have a donor ready for a postoperative transfusion.

When the last word is written on cancer of the rectum and colon. I believe prevention will be that word.

The Journal A.M.A. for Nov. 3, 1934, presents experiments which were undertaken to learn whether the addition of formaldehyde to scarlet fever toxin results in the formation of a scarlet fever toxoid, nontoxic but capable of binding scarlet fever antitoxin and capable of stimulating the production of antitoxin when injected into susceptible persons. Their conclusions are: 1. Scarlet fever toxin is partially but not completely detoxified by treatment with solution of formaldehyde up to 1 per cent. The presence of unaltered toxin in the formalized preparation is sufficient to account for the immunity obtained. 2. No evidence now available justifies the assumption that there is a scarlet fever toxoid analogous to diphtheria toxoid. 3. Alum precipitates diphtheria toxin and the toxin may be demonstrated in the precipitate; but the redissolved alum precipitate from scarlet fever toxin showed no evidence of the presence of toxin. 4. The rabbit is not a suitable subject for standardization of scarlet fever toxin. 5. Since the detoxified portion of formalized scarlet fever is not antigenic, it is inferior to unmodified toxin as an immunizing agent because of the unnecessary amount of useless foreign protein which it contains.

THE CHANGING CONCEPT OF HEART DISEASE*

JOHN MCGILL PORTER, M.D.

Concordia, Kansas

The past twenty years have seen what seems to me a remarkable change in our attitude toward heart disease and I believe a review of those changes and a comparison of our views of 1935 with those of 1915 will be worth while. At my age, of course, I cannot pretend to much first-hand knowledge of what the profession thought of heart disease in 1915. At that time I was more concerned with Caesar's Commentaries and how the girl on the corner could play the piano than with pathology and the use of digitalis. However, for about fifteen years, I have been acquiring some ideas about hearts and for the past ten years have had some opportunity to test those theories.

In addition, by the comparison of textbooks of the early twenties^{1, 2} with the present day ideas, by contact with those of you who were in practice twenty years ago or longer, and by the comparison of teachings of older and younger men when I was a student, I think I have a fair concept of the general views on heart disease from 1915, say to 1920. It is the change and development from those views to those of today that I want to discuss.

In 1923 I had a remarkable opportunity in helping Dr. Richard Cabot prepare the material for his book "Facts on the Heart" published in 1926.³ We did this in Dr. Cabot's characteristic methodical way by securing the record of every bit of cardiac pathology uncovered in the autopsies at Massachusetts General Hospital in Boston, going back, it seemed to me, to at least 1492. These findings were then checked with the clinical histories of these patients and conclusions drawn by Dr. Cabot. Some of these opinions seemed revolutionary at that time and were in flat disagreement with what we were still being taught in medical school. One of these ideas was the insignificance of apical systolic murmurs which up to that time were generally considered to mean mitral regurgitation. Today this is generally recognized^{4, 5} but one still finds well trained men talking about murmurs as though this was a diagnosis of heart disease.

I think most of us in the last few years have grasped the important point that a heart can

function normally with several different murmurs but that the patient cannot function normally in many instances if he has been told he had a "leakage" and especially if he has been taken from school as a child and made into a cardiac invalid. Berger⁶ of Kansas City puts it this way in a recent article on the care of the cardiac child: "It is poor psychology to leave a child conscious of anything that restricts and sets him apart from his fellows." I do not mean by this to minimize the period of protection necessary after rheumatic fever or the exanthemata. I mean simply that the patient should be thoroughly protected against damage to his heart as a whole at these times and that this be explained to him and to his parents as a temporary check on his activities exactly as he would limit the use of a broken arm and a condition no more liable to leave permanent damage than a properly treated fracture. If the infection, whether it be rheumatic fever, diphtheria, pneumonia, or what not, is going to damage a valve, I doubt very much if rest will very greatly influence that pathology favorably or otherwise, but I do believe that the weakened heart muscle can be brought back to normal, or nearly so, after the pan-carditis that affects it has subsided or the nervous impulses reaching it from infections elsewhere, have ceased.

When I find one of these innocent murmurs I protect myself by telling the patient of its existence because I know some one else is liable to do so later. But at the same time I explain its insignificance and carefully refrain from mentioning leakage of the heart. Too many laymen know nowadays that leakage of the heart is a permanent condition. It usually takes three careful examinations and explanations of insignificance to overcome one careless diagnosis of "leakage of the heart" based on possibly, a transitory murmur.

In my work in 1923 under Cabot, the most outstanding fact to me was the absolute lack of pathology in many instances where the diagnosis of valvular defects had been made before death. Occasionally, of course, the converse was true, that cardiac pathology (and I have in mind especially valvular lesions) was present when no signs had been recorded during life^{3, 7}. The principal lesson, however, was that many organically normal hearts have supposed signs of pathology, such as murmurs, particularly during disease of one sort and another. It must be remembered that this study was made

*Read before the Golden Belt Medical Society at Abilene, Kansas, January 10, 1935.

entirely on cases that were sick enough from some cause or other to reach the autopsy table.

At the 1933 meeting of the American Medical Association, Levine⁸ gave an excellent discussion of the clinical significance of the systolic murmur. In his opinion a systolic murmur of more than minimal intensity occurring without exercise is an indication of pathology somewhere. He found it most often to be hypertension, anemia, hyperthyroidism, fever, or tachycardia. With other signs of cardiac disease or with a history of rheumatic fever he considers a systolic murmur of real significance although not necessarily an indication for restriction of activity. Some cases he feels will later develop subacute bacterial endocarditis, hypertension or true endocarditis. Since there is little or nothing we can do to forestall these conditions the early recognition of the preceding murmur does not impress me as important. Work is at present being done in certain clinics with phonocardiograms which shows promise of helping distinguish organic from functional murmurs but this is still experimental⁴.

Cabot and other iconoclasts have pretty well disposed of the myth of simple mitral regurgitation^{8, 9} leaving us with a fairly clear cut picture of mitral stenosis or more properly mitral disease since few of us are competent to say whether stenosis alone or stenosis and regurgitation exist. The diagnosis of this condition is based not alone on presystolic rolls and thrills, but on a consideration of the circulation as a whole proceeding from the mitral flush to the increased liver dullness and other factors.

Similarly with aortic regurgitation whether of luetic or rheumatic origin, and again we usually have a combined regurgitation and stenosis making the better term aortic disease^{9, 10}—again in aortic disease—our diagnosis is based more on pulse pressure with the sphygmomanometer, capillary pulsation and such circulatory manifestations than on diastolic murmurs alone. Pure aortic stenosis may exist but its pathology is hard to picture and I believe seldom found, although recent work of McGinn and White¹¹ would indicate it to be more common than usually supposed. Marchbanks⁹ of Pittsburg also believes aortic stenosis a common late sequel to rheumatism although he admits the presence of some degree of regurgitation in most cases. Except in congenital heart disease—and here my experience is so trivial that I dislike to bring the subject up—lesions of the pulmonary and tricuspid valves

are so rare as to be negligible. They occur apparently in rheumatic endocarditis but never seem to play a role of any importance in comparison to the lesions of the mitral and aortic valves⁹.

This leaves us then with three common types of endocarditis. (1) Rheumatic mitral disease, (2) rheumatic aortic disease and combinations of these lesions and (3) luetic aortic regurgitation with or without disease of the aorta, and this latter is usually considered as arising in the aorta and not in the aortic valve. This is a great deal different from the eight possibilities of stenosis or regurgitation in each of the four valves which our early physical diagnosis led us to believe possible.

About the same time that this tearing down process was going on, Sir Thomas Lewis and others were emphasizing the rhythms of the heart and by means of polygraphs and astute clinical judgment clarifying our ideas regarding fibrillation, flutter, the tachycardias, heart block and premature contractions. So much has been added to this realm of cardiology by the more recent and technical studies of the electrocardiograph that we are liable to lose sight of the fact that fifteen and twenty years ago Mackenzie, Allbutt, Lewis and other essential clinicians with their clumsy polygraphs were doing the spade work for all this marvelous technical improvement. Situated as I have been for some six years away from electrocardiographs and with too much drouth and depression to purchase one for my own good I have often wished I had started medicine a little earlier and with a little more mechanical ingenuity so that I could still use a polygraph without feeling anachronistic.

Without frequent and well-timed use of the electrocardiograph, recognition of bundle-branch block, the differentiation of some fibrillations and flutters, determinations of the auricular or ventricular origin of premature contractions and the like is beyond us country practitioners.^{12, 13} But I like to feel that the majority of the important conditions of this type can be picked up clinically before they become desperate; possibly not well differentiated but at least a fair diagnosis made and some effort at prognosis supplied. This ideal may be the attempt of small men to step in the long strides and fill the large boot marks made by the giant Mackenzie in his early country practice but at least it is a step forward from the old category of regular pulse, irregular pulse and totally ir-

regular pulse which some of you can remember.

The next step I wish to discuss is I believe the most important. It is the conception of the heart as primarily a muscular pump depending more on the integrity of that muscle for its proper function than on perfect valves or perfect timing. Analogies are often misleading but the comparison to a gasoline engine is too apt to pass up. Leaky valves in a motor will reduce power and improper timing of the spark gives poor performance, but such a damaged engine will make a much better trip to town than one with the cylinder head broken or the gasoline line plugged. And so with a heart, leaky valves may limit activity, fibrillation may make the patient unhappy but only a worn-out myocardium will stop activity entirely and permanently. P. T. Bohan has quoted Mackenzie as saying, "I cannot conceive of cardiac dropsy developing as long as the tone of the heart muscle remains intact." However, Mackenzie reaches an extreme in the often quoted suggestion that, "The stethoscope should be thrown away and the physician should learn how to elicit the early symptoms of heart failure."

Terminology is unimportant to my way of thinking. Myocardial degeneration may be a more accurate term than chronic myocarditis but we have used nephritis for years to indicate a non-inflammatory process in the kidney and myocarditis describes a somewhat similar process in the heart. Call it what you will the condition of the myocardium is the important point in prognosis. Since most cardiac lesions are incurable and palliative or protective measures much the same in all of them, prognosis seems to me more important than diagnosis. Tell a patient or his family he has a bad heart and they do not ask what caused it or how is it bad. They ask how long will he live, what can he do, will he die suddenly, etc.

Ginsberg⁷, of Kansas City, expresses this well when he defines heart disease as a condition in which the heart muscle is so damaged as to accomplish its task only at the expense of more or less of its reserve. He adds, "You will notice that I particularly stress the myocardium. A murmur or a lesion of the endocardium does not frighten us for we know many a heart so altered can function as well as the normal heart provided the myocardium has not been markedly damaged. I might say here," he continues, "that every damaged valve caused by infection has also ensnared the myocardium to a greater or lesser degree." Berger⁶ also emphasizes this

saying we seldom find an infectious process limited to a single structure and that "It would be difficult indeed to find an endocarditis or pericarditis without an associated myocardial involvement."

To me the work of Henry Christian¹⁵ typifies this newer emphasis on myocardial integrity. Many others, of course, have added much to the concept but for years Christian in his teachings, his addresses, and his papers has pounded away at this important point with scarcely a word for murmurs and thrills. And I believe it has been a healthy change of attitude from the old valvular viewpoint. In the past too many failing hearts have been overlooked and merely because there were no murmurs, the life saving restriction of activity not imposed or surgery has been undertaken ill-advisedly or a good prognosis given only to have the patient die soon after and conversely too many people have been made heart conscious, too many adolescent girls turned into cardiac invalids, too many boys denied the right to athletics, women the right to children, etc.

I do not for one moment deny that this is a delicate decision calling for our utmost judgment and that disaster threatens closely on either side of the narrow channel where we as pilots must steer the patient. But I fear Scylla as much as Charybdis. To ruin one child's life by restricting his activities unnecessarily seems to me as great a wrong as to shorten another's life by failing to insist on restricted activities. Fortunately for us, many of our patients refuse to remain restricted. Most of you, if you stop to think can recall numbers of cases found in life insurance examinations, routine check-ups and what not disclosing normal individuals with normal hearts who confess they were told years ago they had leaky hearts or weak hearts and went ahead and played football and basketball, or climbed mountains or had babies or worked as harvest hands with apparently no ill-effects. They think of their supposed endocarditis, of course, as something they got over or outgrew.

Analysis of my own records yields rather meagre information. The last 1000 cases I have indexed show seventy-three cardiac diagnoses but subtracting duplications this leaves forty-seven cases or an incidence of a little less than five per cent. In these forty-seven cases chronic myocarditis is given as the cause in thirty-six, rheumatic endocarditis in four and in the remaining seven either no etiological agent or

miscellaneous causes. This was obviously too small a group from which to draw any conclusions so I compared it with the last one hundred cases I have indexed showing any cardiac diagnosis. These figures showed thirty-six per cent chronic myocarditis with various forms of decompensation and thirty-three per cent without failure, a total of sixty-nine per cent. There were thirteen per cent compensated and regular rheumatic hearts and six per cent showed rheumatic endocarditis with irregularity, congestive failure or angina. These totalled nineteen per cent, leaving twelve per cent with either no real pathology or from scattered causes. This is shown better in tabular form but I mention it as confirmation of the opinion I previously held as to the relative frequency of myocarditis and endocarditis in the cases I see.

Analysis of 100 Consecutive Cases Seen in General Medical Practice With Some Cardiac Diagnosis

	Total Cases	Chronic Myocarditis	Rheumatic Endocarditis	Miscellaneous
Congestive Failure	19	16	3	0
Auricular Fibrillation.....	13	11	2	0
Angina Pectoris	10	9	1	0
Neurocirculatory Asthenia	5	0	0	5
Paroxysmal Tachycardia..	4	2	0	2
Coronary Occlusion	3	3	0	0
Pulmonary Edema	2	1	0	1
Block with Stokes-Adams	2	2	0	0
Pulsus Bigeminus.....	1	1	0	0
Sinus Arrhythmia	1	0	0	1
Functional Murmur	1	0	0	1
Sinus Tachycardia	1	0	0	1
Traumatic Hemopericardium.....	1	0	0	1
Totals.....	63	45	6	12
Less Duplications.....	9	9	0	0
Net Total or per cent.....	54	36	6	12
Compensated	46	33	13	0
Total	100	69	19	12

Our present day problem then is to recognize and treat the ailing heart and to formulate some sort of prognosis however hazy for the patient or at least his family. Volumes could be and have been written on each of these phases, but without pretending toward completeness I should like to touch on a few factors in each field which seem to me to have changed radically in the past fifteen or twenty years.

The longer I practice medicine the more I am impressed with the possibilities that can be brought out by an accurate history and the less I seem to disclose by physical examination. That grand old man of Topeka, Dr. C. A. Mc-

Guire, shortly before he died, told me he felt something of the same sort. But the vagaries of the patient's memory irritated his precise mind. "I will question a woman in detail," he told me, "not only by systems and symptoms, but also chronologically from preschool age to marriage and then find an unmentioned upper right-rectus scar. 'What is this a barbed wire cut?' I ask and she will respond, 'Oh, no, Dr. Munn took my gall bladder out fifteen years ago—I forgot to mention that'."

The patient must be adroitly questioned to bring out what we want. The heart attacks they want to talk about are usually fainting spells, indigestion, premature contractions or hysteria. These must be followed up, of course, but the more significant dyspnea, orthopnea, edema, etc., must be elicited. I have never understood why fainting was supposedly such a cardinal symptom and yet many reported heart attacks are that and nothing more. Except in Stokes-Adams syndrome of heart block I can see no cardiac significance in fainting.

My own attitude toward premature contractions or extra-systoles is to minimize them unless some other definite sign of heart disease is elicited. Especially in young adults my experience has been that they are due to tobacco, infection or fatigue in nearly all cases. They are often a part of neuro-circulatory asthenia or effort syndrome which to my mind, is not a cardiac condition at all. A short experience in a cardiac clinic a few years ago confirmed me in this opinion. We ran complete studies including electrocardiograms and orthodiagrams on all our patients but I do not recall one of the many young adults who were referred to us with premature contractions showing any pathology. Stroud and his co-workers¹⁶ found extra-systoles with relative infrequency in a detailed study of some 458 children with rheumatic heart disease over a period of ten years. In middle aged and older persons premature contractions may be of real significance but almost invariably other signs accompany them. I have considered premature contractions under history for the reason that they perversely refuse to appear at the the usual examination. Often it is difficult to discover whether the patient has merely a rapid and forceful heart action to complain about or an irregular rhythm. With premature contractions the patient will almost always volunteer that the heart "stops and turns over" or agree to that if asked about it.

Cardiac pain is another difficult problem to

evaluate. Most of the "pain around the heart" as the patient puts it, in my cases turns out to have its origin in the pleura or below the diaphragm. I am always suspicious of heart pain that makes the patient walk the floor or get up and throw open the windows although discomfort of less degree than true angina, such as occurs in paroxysmal tachycardia for instance, often seems to lead to such activities. This type of pain, too, seems more liable to occur over the traditional heart area. True angina, I believe, always starts under the sternum although from there it seems able to radiate to any part of the head, neck, or upper extremities or even downward. It also comes in all true cases after exercise or digestion.

Dyspnea on exertion is in my mind the most suggestive point in the history. This is well expressed by Harrison of Vanderbilt¹⁷ who says, "The patient's subjective respiratory distress is the most important clinical phenomenon in cardiac disease."^{18, 19} And yet this may easily mislead us. A recent gain in weight will be followed by dyspnea, but the fat woman cheerfully continues to climb and puff. On the other hand the big majority of middle aged early myocarditis cases gradually restrict their activities or slow down their actions until they are scarcely aware that hard or continued exertion would lead to breathlessness. Often this history of slowing down can be gotten better from some associate than from the patient himself. Orthopnea is usually not noticed unless it comes on rapidly but the question of how many pillows are used will bring it out. Edema likewise is confusing and must be distinguished from the swelling due to varicose veins, nephritis, cirrhosis and the like.

These past few statements are of course my own opinion, but I hope represent a modern viewpoint of cardiac symptomatology. The past history is likewise important or suggestive. Repeated insults in childhood like diphtheria, small pox, pneumonia, scarlet fever, etc., seem to me of equal if not greater importance than indefinite rheumatic symptoms such as growing pains. Nevertheless these vague rheumatic histories, especially where they include repeated tonsillitis, are I think, fully as significant as the traditional repeated acute inflammatory rheumatism and chorea. Levine⁸ says a large proportion of patients who have gone through a rheumatic infection are not aware of it. It should also be remembered that many children up to early school age have acute tonsillitis

without complaining of sore throat or the family realizing the condition is more than an "attack of fever," stomach trouble, "teething" or some other vague home diagnosis. Goodman and Prescott²⁰ in a recent survey of 528 adolescent children with heart disease, classified forty-three per cent as rheumatic and forty-seven per cent as of unknown etiology although admitting many of the latter had probably been subject to some unrecognized rheumatic infection. My experience with acute rheumatic fever in the past ten years may be exceptional but it seems to me either to be decreasing or less prevalent in this climate than along the seaboard. Certain studies of Longcope²¹ and others²² indicate a marked climatic variation in its incidence. I have also seen very little sub-acute bacterial endocarditis since finishing my hospital service and I believe its infrequency reflects the lowered rheumatic background.

Along this line I think it worth while to mention chronic or recurrent conditions such as bronchial asthma and chronic bronchitis which I am sure lead to many early cardiac deaths. Alcohol may play a similar part. The tobacco heart idea I think is pretty well exploded. Tobacco affects the nerve supply of the heart beyond question but that its use or abuse has any direct effect on the heart itself I very much doubt. There may be cases of idiosyncrasy comparable to nicotine amblyopia but I have never seen one. "Athletes heart", I think, is also a thing of the past chiefly due to x-Rays after severe athletic contests which show the heart to be smaller than normal at such times. We all see, however, the type of man who plays football, basketball, and baseball for eight years at school and college and then sits down to a desk and continues his eating. Some of the troubles he gets into might be called the athletic diathesis and of course would include heart failure.

The effect of chronic nephritis, hypertension, arteriosclerosis and other cardio-vascular conditions is too well recognized to need comment. The hypotensive arteriosclerotic may have myocarditis as well as his brother with hypertension. A great deal has been written recently about the heart in hyperthyroidism and hypothyroidism and we all see examples of one or the other frequently. In my experience the goiter heart returns rapidly to normal under proper goiter treatment unless the thyrogenic insult has been of too long standing. The recent work on thyroid ablation in heart disease

seems to offer a definite if somewhat limited attack but I have had no personal experience with it as yet. Christian²⁷ in last week's *Journal of the American Medical Association* offers a pertinent comment on the balance between the benefits of hypothyroidism and the deleterious effect on the coronaries.

Anemia can simulate heart disease or make an existing lesion more pronounced but most of us have this common condition well in mind. Many of my patients from this part of Kansas go to Colorado for vacations and the effect of elevation on cardiacs is interesting. I think after the initial breathless phase is passed the organic heart if not pushed to its full limit is seldom harmed by higher elevations. Possibly the relaxation of a vacation helps or the added breathlessness enforces rest. Most patients who do poorly in the mountains are anemic.

The family history seldom gives me much information; as a matter of fact I secure it mainly to satisfy the College of Surgeons requirements at the hospital. Cardiovascular lesions such as hypertension and cerebral hemorrhage do seem to show a hereditary trend but heart trouble can be of so many types that hereditary tendencies are hard to trace if they exist. We all know, of course, that the man whose parents and grandparents all reached ripe old ages has a better chance to go through the early degenerative years unharmed than one whose family history is spotted with early cardiac, nephritic and apoplectic deaths.

In the physical examination I want to touch on only one point and that is the size of the heart. I think enlargement is important but I sometimes wonder if it has not been over-emphasized.⁷ The borders are hard to percuss accurately and even locating the point of maximum impulse visually or tactilely may be misleading. All hearts seem small in the emphysematous chest and what seems to be a large heart in an old man may have been normal size for him in his active robust years. Again the effect of body types is hard to estimate—enlargement in the dropped heart of an asthenic type may be overlooked or the transverse heart on a high fat diaphragm may seem larger than it is. Teleoroentgenograms help in such cases but less than would be expected. Our views as to the value of hypertrophy are also changing these days and a large heart is better considered a weak heart than a compensated one even though the circulation as a whole is compensated.¹⁵

I still think in terms of hypertrophy of the heart (assuming of course, the dilatation that accompanies it) and am not sure that I have ever seen a case of acute dilatation alone. Christian says dogmatically it does not exist.¹⁵ This, however, is a matter for the pathologists to determine.

Passing hurriedly over the changes that twenty years have seen in treatment we can pause on the interesting subject of digitalis only to mention one or two points. One is the increased potency of the modern preparations—a difference from a few years ago that is hard to realize. About 1931 I had the honor of caring in his last illness for a beloved old practitioner of the old school whom many of you knew, Dr. W. F. Sawhill. He was greatly surprised at the effect of digitalis tinctures on his seventy-five year old heart. Since the death of a druggist thirty years before who made a fine infusion of digitalis for him Dr. Sawhill had about given up the use of the drug as the preparations available to him were uncertain and often inert. More recently the whole leaf digitalis in capsules appears to be the form of choice.^{14, 15}

Another interesting development to me is the quite recent return to tonic doses of digitalis or treatment less than full digitalization. We were taught in medical school that this was useless and the practice was gradually dying out. In the last few years, however, numerous careful observers, including Christian, have swung back to such sub-minimal doses in hearts without failure, apparently with good effect. This explains, I am sure, some benefits I have seen which theoretically should not have occurred. Such use should be limited, however, and never confused with the need for full digitalization where that exists.

Another form of therapy I have seen reach acceptance, is xanthine derivative variously called aminophyllin, thephyldin, and metaphyllin. I used it first while a house officer as a German importation, euphyllin, and was impressed then by its value in chronic coronary disease. While useful in only limited cases its American successor (the same drug with a new name) has a definite place in cardiac therapeutics. Likewise the mercurial diuretics, merbaphen, salyrgan, etc., have proved their value in symptomatic relief if not permanent cure of intractable edema. They were first introduced into this country shortly after 1920.

Prognosis in heart disease may have pro-

gressed since 1915 but as uncertain as it is I am doubtful.²³ We can map out the possibilities of the particular lesion present but can we ever foretell the patient's reactions? The nervous, busy, always active man who apparently does not know how to relax may take our orders with stoicism, give up his golf, his big meals, and his worries, and settle down to an ideal regime. The other patient with nothing to do and plenty of money with which to do it, may worry himself out of every improvement he has made or dash about futilely spending what little reserve he has. And over the patient and over our prognosis like the sword of Damocles is the unpredictable thrombosis or embolus. Estimate the reserve as carefully as we will, educate the patient to restrict his exertions, his emotions and his eating, avoid infections successfully and like the Irishman our patient wakes up dead some morning. If I have learned anything about cardiac prognosis in the last ten years it is to be more and more guarded.

The actual method of cardiac death, the final mechanism, is fascinatingly unpredictable. Dr. Wahl²⁴ of University of Kansas says that thrombosis occurs when the circulation slows down and this frequently occurs in sleep. But what slows down the circulation more than usual, or what other factors are involved? He also says the older the heart the better it is able to cope with occlusion because of better collateral circulation. Hence the deaths on the golf course, etc., are those of younger men. Recent works all emphasize the response to effort as the best prognostic criterion but all admit that prognosis in heart disease is largely guess work.

Statistics show us that heart disease is increasing as a cause of death^{22, 25} but this is true of all the degenerative diseases and is largely due apparently to our getting the patients through the earlier years successfully. In other words, if we refuse to let them die of "summer complaint", typhoid, diphtheria, small pox, etc., they grow up to the age where they increase the host of cardiac deaths. The crude figures for the American Registration area for 1900 showed 111 deaths per 100,000 and 184 per 100,000 for 1932, an increase of approximately two-thirds. Thus even the frequency of heart disease has increased.²⁵

Heart disease is such an immense subject and such a fascinating one that I have undoubtedly strayed from my field of comparing 1915 with 1935, but I hope I have demonstrated some changes in our viewpoint in those twenty

years. I hope also and believe that the 1935 concept is an improvement over that of 1915. What 1955 will think of our ideas of today I leave to your imagination.

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GONORRHEAL INFECTIONS IN THE FEMALE*

CYRIL V. BLACK, M.D.

Pratt, Kansas

There have been many discussions as to the seat of infection of gonorrhea in the female. Almost any book² will tell you that in little girls it is vaginal or urethral, maybe with some cervicitis. However we have had two cases of definite salpingitis with some peritonitis, one a girl age 7, the other 9 years of age. Both of these girls had severe lower abdominal pain, elevated temperature and white blood counts; which subsided when a purulent discharge began to flow from the vagina. As this abated, their symptoms returned. The white blood count in these cases was above 20,000 when we saw them. They did not remain under our care for treatment.

In older women it is considered that there is an inflammation of the vulva, vagina, urethra, Bartholin's glands, Skene's glands, cervix, tubes, and often a peritonitis. And with that the common text books stop when telling of the site of infection. Before one can cure a disease, you must consider every possible seat of pathology. Gonorrhea is difficult to treat because all of the seats of infection are not known to the doctors and therefore are not treated. We were not able to maintain our cures and in the absence of new exposures we began to look around for other possible sources of reinfection. Also for new methods of treatment that might give us quicker and more lasting results.

At the suggestion of Dr. C. C. Tucker,¹ a proctologist, smears were made from the rectum on all cases with positive vaginal discharges, the patient having had an enema at home before coming to clinic, using a proctoscope so that we might get well up into the rectum and take the smears from the tops of the ducts and crypts of Morgagni. These crypts had whitish tops on them and in some cases were exuding pus. Both girls below the adolescent age and older women were often found to

*Prepared by Dr. Black while he resided in Wichita, where he was a member of the gynecological service of Sedgwick County Hospital and the Girls' Detention Home.

be positive and new cases who had not had the disease more than two or three weeks were also often positive. However, in three cases, who were about 8 years of age, the organisms were not found and the crypts and ducts showed very little infection.

In this series of cases about to be described, most of the patients had had treatment of some nature for from two weeks to two and a half years; using tampons of Ichthyol in Glycerine, Metaphen in Oil, Tr. Merthiolate, or Post Cautey and Salpingectomy. And a typical case would run as follows: Treatment for three or four weeks, the discharge lessened or stopped and after they had had three negative slides, they would be put on a rest of one month, only to be positive on return. Therefore there was never any assurance of a cure. Twenty-two of these girls were in a detention home where it was certain that they were not making any new contacts. The others were from a charity venereal clinic. Patients were not dismissed until smears over a period of six months showed no gram negative diplococci, either extracellular or intracellular. Those with extracellular cells only were retained because in chronic or treated cases of known gonorrhea where repeated slides were checked and only extracellular cells were found, the patients were infectious to every contact, or in others known positive, where only extracellular cells were found after treatment, who were put on a rest, the cells became intracellular again. Therefore in a treated case of positive gonorrhea of any part, we have concluded that even in view of the fact that extracellular cells are not considered diagnostic of a new case, they are sufficient to hold a patient for further treatment; also to conclude that the infection is in the rectum, if only extracellular gram negative diplococci are found there in a case of positive gonorrhea of the female genital tract.

Of sixty-six women and girls with gonorrhea of the female genital tract, whose rectal conditions were checked, fifty-four showed infected ducts and crypts and some beginning hemorrhoids, and forty-four had positive rectal smears. In the eight small girls treated for gonorrhea, five had positive rectal smears and showed infected ducts and crypts and two showed beginning hemorrhoids. For the pathology of the rectal infection we will refer you to Drs. Tucker's and Hellwig's reports.

CASE REPORTS

First to be discussed will be the girls at the

detention home. These girls were carefully cared for as to sleep, diet, exercise, schooling and the like. Hospital records were kept on them by a graduate nurse.

Case 1. Age twelve years, this girl was positive for gonorrhea when admitted. The rectum was negative—she passed to the menstrual age while under our care. She cleared up after about the sixth tampon treatment and remained free.

The following were treated by injections of Theelin.³

Case 2. Age nine years, chronic gonorrhea with no rectal pathology, was treated with forty-three injections of Aqueous Theelin and has remained negative. The first two negative smears were obtained after twenty-one injections followed by a positive smear one week later and then seven negative smears. Patient was negative six months later.

Case 3. Age ten years, chronic gonorrhea with positive rectal smears was treated as follows: 18 daily injections of 1cc Aqueous Theelin. 10 B.I.D. injections of 1cc Aqueous Theelin. Three negative smears—no discharge; 8 B.I.D. injections of 1cc Aqueous Theelin. 13 daily injections of 1cc Aqueous Theelin.

At this time the patient again became positive; she was placed on Elliott method of treatment for forty-eight treatments and with no further positive smears either from the rectum or the vagina. She has remained negative over a period of six months.

Case 4. Age eight years, chronic gonorrhea of rectum and vagina, was undersized and underweight and was of low mentality or backward type. She was treated with an aqueous solution of Theelin, one ampoule daily for fourteen doses, when she developed a reaction. With this she complained of severe abdominal pains and cramping so severe that it doubled the patient up. The pulse and respiration were increased and the nurse seemed to think the patient having a "fit" of some sort. There was nausea and vomiting, but no tenderness or rigidity, and no increase in white blood count. The patient felt sick for about a day, but did not have an elevation of temperature. Medication was discontinued for twenty-four hours. After eight more doses, another reaction occurred and so on until five reactions had occurred. When, at this time, after fifty ampoules of Theelin in forty-eight days, Theelin was discontinued, and the vaginal smears continuing to be positive, the patient was tried on the Elliott method. After seventeen Elliott treat-

ments, the patient's smears became negative and remained negative for three months. However, as the patient was very uncooperative, the Elliott treatments were only partially carried out, as the length of time had to be shortened and the temperature could not be carried high enough (110 degrees to 120 degrees). The smears became positive after three months and Elliott treatments were again tried but had to be discontinued because of lack of cooperation of the patient. Theelin in Oil was started with five injections weekly, twenty-eight ampoules of 300 units were used. The discharge decreased rapidly and the smears became negative again. The smears from both the rectum and vagina have remained negative for two months. She had a total of seventy-five Elliott treatments; 2500 units of Aqueous Theelin, and 8400 units of Theelin in Oil. The patient is gaining rapidly in weight, is growing and is better behaved. However the ducts and crypts are still inflamed, and Dr. Tucker will resort to surgery to remove this source of possible reinfection.

Of the older girls, thirteen to seventeen, eighteen were treated by the Elliott method, all were chronic cases with considerable previous treatment except two. The treatments were daily except during the menses and lasted for one hour, the initial heat being 110 degrees and increasing to 125 degrees at about two and a half pound pressure. These girls could not tolerate higher temperatures nor greater pressures. They complained of considerable discomfort if these limits were exceeded. The rectal temperature ranged from 103 degrees to 107 degrees during the treatment. For the first few days the discharge became quite purulent and was increased greatly, then after the first week it began to subside, until finally there was none at all. Cervical erosions were increased, as the cervix was turned out due to the treatment, and these were treated with Post Cautery. The first negative slides were obtained as a rule somewhere between the twenty-first and thirty-fifth treatment. But treatments were continued until each case had received about sixty treatments and there had been at least eight negative slides. The cases were then checked following their menses, and they have been found to remain negative. The rectal smears on these cases have all remained negative following this line of treatment. White counts and body temperatures were not altered by these treatments. A few slight burns were received but these healed on further treatment in about three days. There

was no scarring from these burns.

Case 5. Age thirteen years, acute untreated gonorrhea, developed an acute salpingitis after having been treated for three days by the Elliott Method and this subsided in about four days. The patient had an elevated temperature during this interval. This girl continued to show a purulent discharge over a period of seven months, but no more attacks of salpingitis. Her rectal and vaginal smears have remained positive. Finally this discharge subsided and she began running negative smears as follows: At the end of the 112th treatment the patient became negative and remained so for three weeks, then was positive on two succeeding smears. At the end of the 150th treatment she became negative for four weeks, then following her menses her next smear was positive, and on the weeks following she had one slide with only extracellular diplococci and one positive. Her treatment has not been discontinued but salpingectomy will probably be resorted to if she remains positive after her 200th treatment.

Case 6. Age fourteen, had a non-specific infection with considerable purulent discharge and many bacteria present. This girl cleared up entirely after twelve treatments with no further trouble.

Positive slides can be obtained in patients immediately following a douche or after a treatment. Positive rectal smears can be obtained following an enema or an Elliott treatment when the applicator has been in the vagina. Rectal applicators were not used as they were not needed to clear up our cases. Three of these cases were also receiving treatments for syphilis. Several said that they derived a sexual impulse from the Elliott treatment and that sexual desires were greatly increased, while others noticed no stimulation at all.

There was no way of controlling the women attending the gynecological clinic and their treatment by any method was very unsatisfactory. The majority of those attending a charity venereal clinic are quite promiscuous and as a rule are having repeated exposures to new infections. This causes us to make the discussion of their cases very limited. Five of these women have been treated by the Elliott method. They can tolerate higher temperatures and greater pressures than can the younger girls. They began to run negative smears at the end of two weeks treatment by the Elliott method, the discharge had ceased and clinically they also showed marked improvement. But there can be

no definite data as to a cure on them. Therefore we merely mention them to state that we have obtained quicker results on older women, but cannot cite their cases as proof of the value of the method of treatment. This method of treatment was not available to any more of the clinic patients.

Case 7. One woman who had had a salpingectomy and cervical cauterization for a chronic gonorrhea with a frozen pelvis of long standing, cleared up and showed negative cervical and vaginal smears over a period of a year. She had no vaginal discharge during this period. She complained of no rectal trouble, and on examination there were little or no signs of infection there, but the rectal smears were never free from gram negative intracellular diplococci.

In all we have treated six cases of gonorrhea in little girls with Theelin in Oil and have apparently had good results, but the last five have not been with us long enough to claim a definite recovery as they have been followed up only for a period of a couple of months. In the last five cases about two weeks of five injections each were required to get the desired results, however, one patient became negative in one week. The patients are now free from a vaginal discharge and have negative vaginal smears. On two the rectal smears have never been positive. Dr. Tucker is treating the rectal infections on three of these with injections of one per cent protargyrol. The other case, Case 4, has been described.

Dr. Tucker explains that the rectal infections are so commonly seen in women due to the following fact. When a person strains at stool the rectal mucosa is turned out exposing the crypts and ducts, and in women this allows any vaginal discharge present to run down across this exposed tissue. He and Dr. Hellwig¹ have demonstrated these ducts and crypts in infants and in the foetus, as well as in adults.

It is quite logical that either the rectum or the vagina can remain infected alone, and as a source of potential infection to the other without infecting each other. But we believe it is more common the other way. Also it is apparent that the rectal infection is present more than we have been heretofore led to believe, and that it is quite often relatively symptomless, however, hemorrhoids, abscesses and the like do often follow.

Six cases who had had salpingectomies and defundectomies, and who were thoroughly checked later, were found to be positive both

vaginally and rectally. Three of these quit treatment after many more months of treatment and were still positive when they were last seen. Two were cleared up by the Elliott method. The other is attending the clinic at present and after three and one-half years of treatment is still positive, the Elliott treatment not being available to her.

SUMMARY

1. Fifty-four out of sixty-six positive cases of gonorrhea of the female genital tract, or eighty-three per cent, showed rectal pathology.

2. Forty-four, or sixty-six per cent, showed positive gonorrhea of the rectum.

3. Of the small girls, five out of eight, or sixty-two per cent, had rectal gonorrhea.

4. Twenty cases were treated by the Elliott method, eighteen, or ninety per cent, becoming negative both rectally and vaginally.

5. Eight cases of gonorrhea in small girls were treated by hypodermic injections of Theelin. The vaginal smears on all these cases became negative but five of these had positive rectal smears and this rectal condition was not altered by the treatment with the Theelin.

CONCLUSIONS

1. It appears from the work we have done, that although various methods of treatment of vaginal gonorrhea seemed to produce temporary cures, the patient becomes reinfected from the rectum and therefore a final cure is not obtained.

2. That Theelin apparently relieves the vaginal gonorrhea in small girls, but if there is a co-existing rectal infection, the cure cannot be maintained unless this is also treated.

3. Theelin in Oil seems to be superior to the Aqueous Theelin in that there is no burning at the time of the injection, and that it is apparently absorbed and eliminated slower as it did not produce reactions in a patient who had continually reacted to the Aqueous Theelin and results were obtained quicker in the cases in which it was used.

4. The Elliott method of treatment relieves both the rectal and vaginal condition but it is a longer process in girls than in older women due to the difference in the elasticity of the vaginal walls which prevent as complete a distention of the applicator in girls as can be had in older women.

5. Although others report good results in the treatment of tubal infections by the Elliott method, we apparently have not had the same

in our case, but this might be due to the fact that the temperature of the treatment was not carried above 125 degrees.

6. Under ordinary methods of treatment a case of gonorrhea is apt to persist for years in a chronic vaginal or rectal form, and remain rather symptomless, even when the patient is kept under the strictest confinement and prevented from any new exposures, or the patient may not be symptom free but suffering continually.

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THE VALUE OF THE TUBERCULIN TEST*

CLIFTON HALL, M.D.†

Topeka, Kansas

The extensive use of tuberculin now in progress throughout the world, has made apparent the need of a standard substance. Each year more and more tuberculin testing is being done, and unless a standard dosage of the active principle is used, the results will tend to confuse rather than clear up the epidemiology of tuberculosis. With the steady drop in the mortality rate of tuberculosis, increased efforts are being made toward preventive measures.

It has been found that the tuberculins prepared by commercial houses, state boards of health, laboratories, etc., vary enormously in the percentage of active principle. Some tuberculin is ninety-nine per cent inert material and there is considerable chance of falsely interpreting many reactions as positive. After considerable research, the National Tuberculosis Association adopted the Synthetic Medium Tuberculin of the Bureau of Animal Industry. The investigations of Drs. Seibert, Aronson and Long in the preparation and use of a standard tuberculin has resulted in a preparation called Tuberculin P.P.D. (Purified Protein Derivative). This tuberculin is manufactured by the Mulford Laboratories of Sharp and Dohme and the laboratories of Parke, Davis and Company, under the direct supervision of a special Tuberculin Committee, which is a sub-committee of the Committee on Medical Research of the Na-

tional Tuberculosis Association. Every lot manufactured is tested for standard potency at the Henry Phipps Institute under supervision of Drs. Seibert, Long and Aronson.

With uniform tuberculin being used throughout the world, more accurate knowledge may be gained concerning the conditions underlying varying sensitivity. With forty years of tuberculin testing behind us, no definite conclusions have been reached other than that a positive tuberculin indicates a previous infection with the tubercle bacillus. The Kansas Tuberculosis and Health Association and the Kansas State Board of Health would like to see Kansas physicians adopt Tuberculin P.P.D. as a standard, so that their results might be more uniform.

We suggest that the tuberculin test be given to a large percent of the population so that definite advances may be made in controlling tuberculosis. Tuberculosis costs Kansas over \$2,500,000 annually, all of which is unnecessary, for as Pasteur said, "It is within the power of man to cause all parasitic diseases to disappear from the world."

The tuberculin test can be used equally well in case finding among families, and as an aid toward early diagnosis. Let us take the infant and preschool child. If a child is infected before school age, there is a strong possibility of an active case of tuberculosis being present in the family. A child of this age has few contacts outside the immediate family, and the aunts, uncles, grandfathers and grandmothers. Surely if an infant gives a positive test the case of active tuberculosis responsible for the reaction should be found. In this way, an old chronic case of tuberculosis can be taken out of circulation, or an early case of tuberculosis discovered before the physical "break".

The grade school child may be tested for the same purpose. In this case, however, the child has had other contacts and while the family and close associates should be investigated, the incidence of active cases found in these families will be less than in the preschool child family group. Possibly a more important reason for testing in the grade schools is that here it is possible to begin the active work of prevention. A child who gives a positive test during this age, is from five to nine times more likely to develop clinical tuberculosis before the age of thirty than the child who does not react. Thus by carefully watching this relatively small group over a period of years, removing them

*Read at Cowley County Medical Society, December 20, 1934.

†Division of Tuberculosis, Kansas State Board of Health.

from contact and supplying them the necessary education, food, clothing, and rest, it is estimated that the incidence of tuberculosis would decrease from seventy per cent to eighty per cent.

In the high schools we begin to find adult type tuberculosis. From one to four per cent of positive reactors in high schools reveal definitely suspicious *x*-Ray findings with an occasional unmistakable tuberculosis. Here the social aspect must be considered. An active case of tuberculosis may infect seventy-five per cent of his classmates, and may even witness the death of a fellow classmate, caused by his own condition. Younger children in the home may become infected and possibly die of a tuberculous meningitis.

Colleges have made use of the tuberculin test and the *x*-Ray in finding unsuspected tuberculosis among the students. A program of this sort was carried out by Canuteson at Kansas University in September and October, 1934. Out of the 1,330 freshmen tested, 450 gave a positive reaction. All these were *x*-Rayed, and although no cases of clinically active tuberculosis were found, there are several students taking a little more rest and doing a little less work because of suspicious findings.

At Iowa State, the results were somewhat different. Of the 2,997 tested by Kalar, there were 360 positive reactors. The *x*-Rays of these positive reactors revealed seventeen cases of active pulmonary tuberculosis, of which three had positive sputum. By substituting close supervision, a proper hygienic mode of living, health education, and rest, for strenuous schedules, athletics and social life, these individuals may prove an asset rather than a liability to their community.

So much for the school life of the community. Now what about the adults? Tuberculosis is the leading cause of death between the ages of fifteen and twenty-five. Many boys and girls are deprived of the privilege of a college education and are employed soon after reaching this all important ten-year period. Group insurance is becoming increasingly popular for both employer and employee. Group health examinations are finding favor and many industries require physical examinations before they employ the applicant. The tuberculin test is of definite benefit here. Followed by *x*-Ray, many unnoticed cases of tuberculosis will be found at a stage where no definite symptoms are recognizable. Fellows, in his work with the

Metropolitan Life Insurance Company found 141 active cases among the 13,000 supposedly well employees. Incidentally, of this group, thirty-three per cent were symptomless, and fifty-eight per cent had no rales. Undoubtedly this group is no different from other groups throughout the country, and it is quite possible to find many unsuspected cases among our people who are able to carry on a full day's work. By tuberculin testing groups, and *x*-Raying the positive reactors, great strides could be made toward ridding the community of tuberculosis. Not every adult gives a positive reaction. Less than fifty per cent of the adult population in Kansas will give positive reactions, and in certain communities, as high as seventy-five per cent of the adult population is probably free of infection.

One of the reasons more women than men die of tuberculosis in the early twenties is because of the strain of pregnancy. If tuberculosis in a sub-minimal stage is diagnosed early in pregnancy, many mothers, by careful supervision, can be saved from tuberculosis, and their children allowed to grow up free of infection.

The tuberculin test is of definite value in older people also. Although a positive test does not mean clinical tuberculosis, a negative test is of importance in ruling out this condition. A cough, loss of weight, malaise, etc., in an adult, may point to tuberculosis. Here a negative test is of importance and permits the physician to rule out tuberculosis in favor of some other condition. Fully twenty per cent of the patients entering the sanatorium do not have tuberculosis. Many of these give negative tuberculin reactions and should never have been sent to the Norton sanatorium. During the past year, several suspected cases of tuberculosis have appeared for examination at our various clinics. As a matter of record, and to substantiate negative findings, tuberculin tests were given, many of which were negative. With few exceptions, it seems unwise to diagnose a case as having tuberculosis in the face of a negative tuberculin test.

Thus it can be seen that the tuberculin test is of value from infancy to old age, for case finding, as an aid in diagnosis of unrecognized tuberculosis in its incipiency, and as a means of eliminating tuberculosis in the differential diagnosis.

DERMOID CYST OF THE OVARY*

WILFRED COX, M.D.

Wichita, Kansas

The etiology of dermoid cysts is not known. Cullen states, "the ovary is in reality an embryo factory and, given the necessary stimulus, certain elements will start growing". Against this theory is the fact that dermoids originate and develop in other parts of the body. Some feel that a dermoid should be considered as a twin belonging to the same generation as the patient in whose ovary it develops.

Dermoid cysts are most often found anterior to the uterus and usually only one ovary is involved; however, both ovaries may contain dermoids. Large ovarian dermoids are pedunculated and have a tendency to become twisted. They are also likely to become infected. Dermoids usually vary in size from 5 to 15 centimeters in diameter, (rarely larger than the fist). Five to ten per cent of all ovarian tumors are dermoids. These tumors may cause necrosis of the bladder or rectum.

Macroscopically they are lined with skin and contain an oily fluid which solidifies on cooling, bone, teeth (may be fused) and hair. The hair is not always the same color as that of the individual harboring the tumor.

Microscopically there is no hornified layer to the skin but the corium, stratum germinativum and papilla are present with an underlying fibrous stroma in which sebaceous and sweat glands along with hair follicles may be found. Cullen states that, "sieve like ovarian stroma with giant cells means that a dermoid is nearby".

The symptoms of an ovarian cyst are: pain in the lower abdomen, fever (if infected), frequent urination, constipation, pain in the legs, edema of one or both legs, (varicose veins), dyspnea (if a very large tumor), diminished flow and lengthened interval between periods. Large cysts in young women usually have amenorrhea. Increased flow makes one suspicious of carcinoma of the ovary.

The physical findings are: bulging lower abdomen, mostly in the midline, mass which moves when the patient changes her position, no fluid wave unless the tumor is very large or there is fluid in the abdomen, (with fluid there is shifting dullness), no bulging of the umbilicus, and the mass is usually anterior to the uterus. On bimanual examination the tumor is

separate from the uterus; moving the uterus does not move the mass unless it is infected. If infection is present then one has the physical findings of a "frozen pelvis".

The treatment is either surgical removal, intact if possible as infected dermoids tend to produce peritonitis, or drainage through the culdesac with removal of the contents per vagina.



Dermoid Cyst of the Ovary No. 1
Wilfred Cox, M.D., Wichita, Kansas

The case that I have to report is a female, age twenty-one, who entered the hospital February 9, 1933, with a chief complaint of pain in the lower abdomen. Four months ago she had an abortion and has had one normal period since that time. Three months ago the patient was in bed three to four days with pain in lower abdomen, vomiting and fever. This attack started December 7, 1933, with pain in the lower abdomen, vomiting, pain on urination and pain on bowel movement. After entering the hospital the patient had to be catheterized. Her periods have been scanty and irregular the last four months. The temperature was 101 to 102 degrees, pulse 104 to 120, respiration 18 to 22. Has had only one period since December

*Read before the Sedgwick County Medical Society Oct. 16, 1934.

7, 1933.

The laboratory report was as follows: Hb. 80, RBC. 4,800,000, WBC. 16,200 to 25,200, Polys 82 per cent.

There was tenderness and rigidity over the lower abdomen. Bimanual examination revealed a firm, round and fixed mass pushing the cervix up against the symphysis, both fornices and the culdesac were full. Rectal examination revealed a firm, round and fixed mass. Three days after entering the hospital the mass enlarged to three fingers breadth above the symphysis.



Dermoid Cyst of the Ovary No. 2
Wilfred Cox, M.D., Wichita, Kansas

A colpotomy was done December 12, 1933. Greasy material, hair and one piece of bone were removed. An iodoform drain was inserted. The drain was removed gradually, entirely in six days. The postoperative treatment was as for peritonitis eg. Fowlers position, Levin tube with negative pressure, hypodermoclysis (normal salt solution), five per cent glucose in normal salt solution intravenously, morphine and heat to the abdomen. The patient was in the hospital one month.

The patient was x-Rayed in February and showed teeth and bone in the pelvis.

The patient returned to the hospital February 27, 1934. She complained of pain in the lower abdomen. The temperature was normal, the pulse 100 and the respiration 18. The urine was normal, WBC 15,400, Hb 69, RBC 3,770,000. The opening previously made in the culdesac was obstructed by bone and hair. This opening was enlarged and the contents of the dermoid removed.

An iodoform drain was inserted. The drain was removed in forty-eight hours. The patient left the hospital in one week, with normal temperature, pulse eighty, respiration twenty and the drainage much decreased. The patient was examined October 8, 1934, and the opening posterior to the cervix was healed; the temperature was normal and no mass was palpable on bimanual examination. The patient has gained in weight and is working every day.

In conclusion. The etiology of dermoids is not known. An ovarian dermoid posterior to the uterus may be successfully drained through the culdesac by the removal of its contents per vagina, and the patient apparently makes complete recovery.†

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2. Annals of Surgery. Jan. 1933, Page 135, Dr. Carl Eggers reports a Dermoid Cyst of the Mediastinum which was drained with apparently good results.
3. Graves Gynecology. 1920, Page 401, 404.

†Editorial Note: While the generally accepted surgical opinion is that a complete extirpation is required for the cure of an ovarian dermoid this case report illustrates a relief of symptoms for a period of eight months by a more conservative procedure.

ARTIFICIAL PNEUMOTHORAX IN THE TREATMENT OF LOBAR PNEUMONIA

Albert Behrend and Roscoe B. G. Cowper, Philadelphia (Journal A.M.A., June 9, 1934), treated eleven patients having unilateral lobar pneumonia with artificial pneumothorax to compress the affected lung, with two deaths. Neither of these fatalities could be directly attributed to the pneumothorax. They believe that collapse therapy is a rational form of treatment of lobar pneumonia, based on sound surgical principles. That lung tissue affected by lobar pneumonia can be compressed by air has been shown clinically, by roentgenograms and at necropsy. Artificial pneumothorax relieves the pain of the pleurisy that frequently accompanies lobar pneumonia. It is possible to induce a critical fall in temperature by artificial pneumothorax. The authors believe that artificial pneumothorax is neither a "cure-all" nor a "therapy magna sterilisans," but it has shown itself to be a valuable adjunct in the treatment of lobar pneumonia and even a life saving measure in some cases. They have seen no complications directly attributable to the procedure.

PRESIDENT'S PAGE

OUR RESPONSIBILITIES

To the Members of the Kansas Medical Society:

Organized medicine in Kansas is represented by 1405 members and carries upon its roster the name of every physician and surgeon, past and present, who has achieved any degree of prominence in the field of medicine in our state.

We take pride in the Kansas Medical Society which was organized under the old territorial government of Kansas back in 1859 and that since the time of its incorporation this Society has worked for the betterment of the commonwealth of Kansas. The purposes of the Society embrace the highest ideals, both for the medical profession and for the welfare of the public.

If there was need for organization seventy-six years ago, certainly there is greater need today for united cooperation in the study of rendering the benefits of medical science to the ill of suffering humanity, to the prolonging of life and adding comfort thereto.

Our Society consists of officers, councilors, committeemen, delegates, members, and guests, each of which has his specific duty or place in the organization. The officers of the Society shall be a president, president-elect, vice-president, constitutional-secretary, and treasurer.

The president of your organization has very definite duties as outlined in the constitution and by-laws of the Kansas Medical Society which specifies "He shall preside at all meetings of the Society; he shall be the real head of the profession in the state during his term of office; shall, as far as practicable, visit by appointment the different sections of the state and assist in the organization of new societies and in the building up of the older ones." But the president, if he has the highest interest of his society at heart cannot and will not let his activities cease with the written word.

He will acquaint himself, thoroughly, with the mechanism of the organization and whatever concerns the society will be his concern also, and when problems arise, as they constantly do, he will give them his prompt and earnest attention keeping always in close touch with the central office. His energies and services will be dedicated to the society for his term of office.

The councilors are important units in the organization and also have specific duties to

perform. It is binding on each councilor to visit the different counties in his district, at least once a year, for the purpose of increasing the zeal of the society in organized medicine and presenting to the members the problems that confront the profession today. It is most gratifying to know that many of the councilors are fulfilling their obligations and will, no doubt, have encouraging reports at the next annual meeting.

The executive-secretary committee which was appointed at the last annual meeting has functioned in an ideal manner, holding frequent meetings in the different sections of the state. In most instances these meetings have had an attendance of one hundred per cent. In fact, there have been but three absentees at these meetings and when this occurred it was unavoidable. It is what may be termed a model committee.

The committee for the control of cancer is most active and doing a wonderful piece of work. They have established a speakers bureau and have addressed numerous women's organizations and other groups throughout the state.

The scientific committee is working overtime in the preparation of an outstanding program for the Salina meeting May 8, 9, 10, which should appeal to the specialists in every line as well as to the general practitioner.

The executive committee will of necessity be very active as there will be monthly meetings for the transaction of urgent and routine business.

The remaining standing committees are outlining their plans and will soon be able to show the results of their activities.

The council at its January meeting authorized the president to appoint a committee on economics. We consider this an important committee and one that should be of great service to the membership, especially at this time.

When we, as officers, councilors and committeemen accepted our election or appointment, we accepted the responsibilities which we inherited with the office and we feel that the membership expects us to function to the best of our ability.

As your presiding officer, I pledge you my untiring efforts in the interest of the Kansas Medical Society and I beg the loyal support of the officers, councilors, committeemen and members in making this a successful year for our society.

—J. F. Hassig, M.D., President.

EDITORIAL

"SOCIAL INSURANCE"

Developments of unusual interest to the medical profession were made public on January 17 when the President in a message to Congress reported findings of his Committee on Economic Security. Likewise his promise made in June 1934 that the present Congress would chiefly consider enactment of legislation leading to greater economic security seemed well on its way to fulfilment since plans outlined completely covered unemployment insurance, old age pensions, federal aid to dependent children, the support of existing mothers' pensions systems, appropriations for services for the protection and care of homeless, neglected, dependent and crippled children, and finally additional aid by the federal government to public health agencies.

Sickness insurance was not recommended by reason the President stated he was not as yet ready to make a recommendation along that line. His committee, however, had reported fully on the subject, and it is generally understood that decision was postponed until approximately March 1 to enable additional conferences with organized medicine.

The committee report is as follows:

1. The fundamental goals of health insurance are: (a) the provision of adequate health and medical services to the insured population and their families; (b) the development of a system whereby people are enabled to budget the costs of wage loss and of medical costs; (c) the assurance of reasonably adequate remuneration to medical practitioners and institutions; (d) the development under professional auspices of new incentives for improvement in the quality of medical services.

2. In the administration of the services the medical professions should be accorded responsibility for the control of professional personnel and procedures and for the maintenance and improvement of the quality of service; practitioners should have broad freedom to engage in insurance practice, to accept or reject patients, and to choose the procedure of remuneration for their services; insured persons should have freedom to choose their physicians and institutions; and the insurance plan shall recognize the continuance of the private practice of medicine and of the allied professions.

3. Health insurance shall exclude commercial or any other intermediary agents between the insured population and the professional agencies which serve them.

4. The insurance benefits must be considered in two broad classes: (a) cash payments in partial replacement of wage loss due to sickness and for maternity cases, and (b) health and medical services.

5. The administration of cash payments should be designed along the same general lines as for unemployment insurance and, so far as may be practical, should be linked with the administration of unemployment benefits.

6. The administration of health and medical services should be designed on a state-wide basis, under a federal law of a permissive character. The administrative provisions should be adapted to agricultural and sparsely settled areas as well as to industrial sections, through the use of alternative procedures in raising the funds and furnishing the services.

7. The costs of cash payments to serve in partial replacement of wage loss are estimated as from 1 to 1.5 per cent of pay roll.

8. The costs of health and medical services, under health insurance, for the employed population with family earnings up to \$3,000 a year, is not primarily a problem of finding new funds but of budgeting present expenditures, so that each family or worker carries an average risk rather than an uncertain risk. The population to be covered is accustomed to expend, on the average, about 4.5 per cent of its income for medical care.

9. Existing health and medical services provided by public funds for certain diseases or for entire populations should be correlated with the services required under the contributory plan of health insurance.

10. Health and medical services for persons without income, now mainly provided by public funds, could be absorbed into a contributory insurance system through the payment by relief or other public agencies of adjusted contributions for these classes.

11. The role of the federal government is conceived to be principally (a) to establish minimum standards for health insurance practice and (b) to provide subsidies, grants or other financial aids or incentives to states which undertake the development of health insurance systems which meet the federal standards.

Noteworthy is the adherence in most respects to the "points" adopted by several medical groups last summer. Interesting, also, is the inclusion of indigents, a feature not usually found in health insurance schemes, and the guaranty of freedom to the professions. On the other hand, are dangers to both public and profession of political administration which seem likely to intrude under any system where governmental agencies assist in the operation of private endeavor. Then too, as a matter of being practical, one wonders how the bill can be paid. It is certain that medical relief has not demonstrated ability of subsidization to care for indigents to say nothing of the state increasing its burden with 1 ½ per cent for health and care of the 690,000 persons gainfully employed in Kansas. Nor would a possible 3 per cent of wages to and including, \$250.00 per month from employees, or a possible 1 ½ per cent from business seem easy.

Perhaps it can be done, and if it is done with preservation of liberty to the profession, which

the President has so far considered paramount, then perhaps we have reached the end of free indigent care; its cousin, state medicine; and of slow and unpaid obligations.

LABORATORY AND CLINICAL TESTING

In the last few decades of medical history many important laboratory procedures have been added to our armamentarium to aid us in the correct diagnosis of many pathological entities. Many of these have been in use for a number of years and are becoming more popular and even routine procedures in large clinics where there concentrated attempt is made to arrive at a diagnosis of some obscure disease.

We are all aware of the value of quantitative determinations of the blood components. Persistent high blood sugar readings with or without urine findings is significant of degenerative processes in the pancreas. But we would not make a diagnosis of diabetes upon one high blood sugar reading. One of the oldest specific tests that has withstood the ravages of time is the Wassermann reaction, which is used in the diagnosis of syphilis. It is graded in reaction from a weakly positive (1 plus) to a strongly positive (4 plus) and as much as we depend upon the Wassermann test in our diagnostic procedures we would scarcely brand every patient that we see upon whom the report of the Wassermann is 1, 2, or 3 plus, as a luetic. We know that other pathological or chemical disturbances in the body may give weakly positive reactions. We also know that some patients become Wassermann fast and regardless of the amount of anti-luetic treatment administered the result of the Wassermann test remains the same. So we have to be guarded in our assumptions and before making definite statements to our patients we must make every effort to prove or disprove the presence of a constitutional disease such as syphilis.

In 1689, Richard Morton wrote the first modern treatise on tuberculosis in which the clinical side was well considered. But the first step in laboratory diagnosis was the discovery

of the tubercle bacillus by Robert Koch in 1882. This gave the physician an absolutely accurate means of making a diagnosis of an active lesion of tuberculosis. This test stands today as the only method of making a diagnosis of an active lesion in the less extensive processes without prolonged clinical observation and repeated x-Ray examinations.

We are now hearing quite a lot about the tuberculin reaction as though it were something new and startling. However not many years after Koch's discovery of the tubercle bacillus Calmette discovered that when a drop of an attenuated and triturated culture of the tubercle bacillus was placed in the eye, that in some individuals there was a severe reaction and that in others there was no reaction. Von Pirquet discovered that the same material when used by the intradermal or scarification method would produce a localized reaction in some and no reaction in others. Upon repetition of this procedure it was found that those in whom there was either an active or a healed lesion of tuberculosis were positive and that those in whom there had been no tuberculous activity previously gave a negative reaction.

This test has been used widely by the pediatricians for many years as a diagnostic procedure in obscure illnesses of children but has not had universal usage in diagnostic procedures upon adults because a large percentage of all adults give a positive reaction. The ratio of positive results in adults is higher in urban than rural communities because the incidence of tuberculous infections is greater.

There is a growing tendency at present to attempt to introduce a modification of this old test into widespread usage similar to that of the Schick test for diphtheria. Under many circumstances this procedure is fraught with danger unless there are facilities at hand and adequate cooperation of the positive reactors to thoroughly check the activity or latency of the tuberculous lesion present.

This is not an attempt to discredit the value of the tuberculin reaction as a diagnostic pro-

cedure in the hands of the clinician in the presence of symptoms suggesting tuberculosis or in any obscure type of illness, for a negative tuberculin reaction definitely rules out tuberculosis while a positive reaction indicates the need for further detailed study and minute observations. However, the wholesale usage of the tuberculin reaction by public minded physicians, municipal clinics and public health organizations may be questioned because it is apt to produce in many positive reactors who have healed lesions so severe a phobia of tuberculosis that it would tax to the utmost the patience and resources of the family physician to prove that their lesion was not an active one.

ADVERTISERS

We are glad to hear through different sources that the members of The Kansas Medical Society are favoring products advertised in the JOURNAL. Our paper is supported by the advertisers and their support by the readers will induce them to renew their contracts. This also will be good argument for our business manager to use in inducing other reputable firms to secure space. Increased income will permit the JOURNAL to increase its size and to furnish cuts for illustration without charge to our contributors.

ONE WAY TO SAVE MONEY

The physicians of one of the larger cities of this state were recently offered the opportunity by a good salesman to have their names printed in a registry of physicians who are in a position to handle examinations and other work for insurance companies. Of course a good fee was to be paid annually to the publishers who promised to place the book in the hands of insurance companies.

The assumption that these companies would use the list can hardly be justified since information regarding prospective examiners could be secured by some better standard than the ability to pay ten dollars for having a name listed. The insurance companies would doubtless consult the directory of the American

Medical Association and get advice from the community in which the appointment was to be made.

In any case it looks as if the subscribers were getting little for their money. We suggest that Kansas physicians get off the national sucker lists in the following way: refer all such matters to the State Executive Secretary's office for information. He will make a personal investigation, consult the bureau of Medical Economics of the American Medical Association and by letter or bulletin report his findings. Such a policy will save thousands of badly needed dollars yearly to a profession that is badly bent by the present economic upheaval.

PUBLICITY OF MEDICAL AFFAIRS

Publicity of matters relating to medicine and physicians from time to time serves to focus our attention on the need for some definite plan whereby medical items of legitimate news interest may be presented to the public in accurate, simple and readable fashion without violation of the tenets of medical ethics. It must be recognized that the function of a newspaper is to disseminate items of interest and value to its readers. Editors realize (as do advertisers, all too obviously), the great interest that all people have in health and matters pertaining thereto.

Newspapers are desirous of getting and publishing accurate and news-worthy information. Accuracy of representation of scientific facts is usually as fond a desire of the press as it is of the medical profession, though at times sensationalism overcomes discretion. Traditionally the doctor has come to regard the newspaper reporter and editor as men to be shunned for fear that his comments may be distorted and misinterpreted by them in the published report of an interview. Those of us who are readers of the magazine "*Time*" realize what can be done in the way of reasonable, accurate and interesting medical reporting. Accurate and ethical presentation of medical news is by no means impossible.

The problem is not an insoluble one. One

great need is an authoritative medical body equipped to give accurate and unbiased information on topics of medical interest to the press.

Reporters and editors alike are deeply interested in the success and progress of the medical profession. They are at least in part cognizant of the ethical problems presented in the utilization of names of practicing physicians and surgeons in connection with various news stories. We have all of us fumed over mistakes in the reporting of medical matters, little has been done to correct the situation and when a reporter has attempted to obtain help in preparing a story on a medical subject a really competent representative of the profession has often felt obliged to refuse to discuss a given subject.

This matter of reporting of medical discoveries or medical news in the lay press is of utmost importance to the prestige of the profession. It should be a prime concern of the Massachusetts Medical Society to see that this is properly handled. It might be well at the next meeting of the Council to consider the feasibility of establishing a Publicity Committee which would be concerned with press releases, and form a liaison between the medical profession and the press, and would be a group to whom reporters and editors alike could turn for accurate information on medical matters.

Certainly we could be no worse off than we are at the present time. In an endeavor to interpret scientific news the average reporter or editor is as much in need of help as is the average doctor when it comes to understanding matters of publicity and newspaper practice. In an experience of some years with Boston papers the writer has had uniformly courteous consideration and real effort has been made by the press to meet the demands of accurate and ethical medical publicity. We must coöperate with the press or have only ourselves to blame for the raising of false hopes in thousands of sufferers and ultimately, through too many false heraldings of the dawn, to see all medical discoveries viewed with skepticism.—*From the New England Journal of Medicine.*

MEDICAL SCHOOL CLINIC

POSTOPERATIVE DILATATION OF THE STOMACH

WILFRED C. CURPHEY, M.D.*

Kansas City, Kansas

One of the most important contributions to surgery was made in 1869 by Kussmaul¹ when he described the use of the stomach tube. The efficacy of this instrument has recently been greatly enhanced by its use with constant suction. Without question, continued gastric lavage with suction is the most effective therapeutic measure in the treatment of the condition to be discussed.

Acute dilatation of the stomach was first described by Duplay² in 1833. Mechanical obstruction as a causative factor was first suggested by Rokitansky³ in 1842. More recently Kellogg⁴ has again championed such a theory even in face of the reports of many experimenters whose results point to motor paralysis or the "nervous mechanism" theory of Briton.⁵ It is a rather common postoperative complication of serious import as shown by Conner and Loffer^{6, 7} who respectively report 67.5 per cent mortality in a series of 319 cases. It is doubtful if the medical profession has given this condition quite enough consideration, since in the past five years at least twice as much space in medical literature has been awarded postoperative pulmonary atelectasis, rarely fatal, as has been given acute gastric dilatation, a fatal complication if unrecognized and not uncommonly fatal even when carefully treated.

It should be kept in mind that acute gastric dilatation is not only associated with surgical procedures, but may follow any type of trauma or debilitating disease and should be constantly watched for if an early diagnosis is to be made. The first symptom is usually tachycardia associated with epigastric distress and distention. That tachycardia and cardiac arrhythmia should occur is perfectly logical in view of the fact that such dilatations of the stomach have been experimentally produced by simply cutting the vagus nerve. In fact, cardiac arrhythmias have been produced in dogs by forcibly dilating the stomach.⁸ The most characteristic symptom is the typical overflow vomiting which follows continued gastric dilatation. At first the vomiting may be periodical but finally

*University of Kansas School of Medicine.

constantly recurs every few minutes without the usual wrenching and gagging. Often the patient will be observed to hold an emesis basin into which he constantly expectorates mouthfuls of gastric contents. Frequently the first sign of this overflow is the stain of gastric contents at the angles of the patient's mouth, similar to the telltale sign of the tobacco chewer. Alkalosis soon follows continued vomiting. This is associated with dehydration, depletion of chlorides, not uncommonly toxic nephritis and untimely death.

The case to be presented was one in which gastric ileus developed following a very minor surgical procedure. Death was apparently a result of uremia due to nephritis.

CASE REPORT

A colored male, age forty-nine, was admitted to the University of Kansas Hospital on October 18, 1934. The chief complaint was difficult urination and inability to void for the past two days. Eight years previously he had had a similar complaint and at that time was treated for a urethral stricture in the out-patient department of this institution. Sounds were passed at that time and the symptoms were completely relieved until two weeks before admission to the hospital. According to his past history, he had had an acute urethritis sixteen years previous to admission.

Physical examination at the time of admission revealed no abnormal findings other than a slight rise in blood pressure and a urethral stricture. On the second hospital day, a filiform catheter was passed into the bladder and followed by a number eighteen LaFort sound. This passed with little difficulty. That afternoon the patient developed a chill and the temperature rose to 104 degrees. On the three succeeding days, chills recurred and the temperature rose to 104 degrees on each occasion. The urine was examined and found to contain a large quantity of pus. A blood chemistry study revealed non-protein nitrogen of 161.6 milligrams, urea 100 milligrams, creatine 5.8 milligrams and a carbon dioxide combining power of 40. On the third postoperative day, the heart began to fibrillate and the patient was immediately digitized. On the same day the patient began to vomit and a very definite upper abdominal distention was noted. A Levin nasal tube was passed and 1700 cubic centimeters of fluid and large quantities of gas were removed from the stomach. A diagnosis of acute dilatation of the stomach was made and the follow-

ing treatment instituted. Continuous gastric suction, 3,500 cubic centimeters of fluid daily, consisting of 2,000 cubic centimeters of normal saline solution by hypodermoclysis and 1500 cubic centimeters of five per cent glucose solution intravenously. Morphine sulphate, grain one-sixth was given every three hours. Within thirty-six hours the gastric dilatation was completely controlled. Cardiac fibrillation had ceased. The signs of uremia were more marked, however, so the above therapeutic regime was continued. Coma developed and the patient died on the eighth postoperative day.

Many methods of treatment have been utilized in combating this condition. Ergot, esserin, pituitrin and recently pitressin have all been suggested and used to stimulate the emptying power of the stomach and bowel. Repeated gastric lavage has been advocated but this relieves the strain only at intervals. Constant gastric siphon drainage by nasal tube has also been widely used. The latter does not adequately empty the stomach of both liquid and gas. The most effective procedure is one which utilizes continued drainage by supplying a source of constant suction which forcibly empties the stomach and keeps it empty until its tone can be regained. When this method is in use the stomach can be constantly washed by allowing the patient to drink water at will. In addition to the mechanical emptying of the stomach, careful attention must be given water and chemical balance. Dehydration may be extreme and loss of chlorides from the stomach may result in marked hypochloremia. Water and sodium chloride are given by vein and under the skin daily. The quantity of chloride to be given can be controlled by frequent blood chloride estimations. As a supportive measure glucose is used in five per cent solution by the venoclysis method.

Several types of suction apparatus for this purpose have been described such as that of Ward⁹ or Wangenstein¹⁰ but I believe that the most practical and most generally useful is the one that Dr. Orr and I have recently described.¹¹ This instrument requires no additional bedside apparatus other than the bedside table; it segregates the gastric contents, thus affording cleanliness as well as permitting an accurate estimation of the gastric secretions lost; it can be assembled by anyone in a short time and at little expense. It is extremely simple to operate, requiring little attention which is extremely important in a busy hospital (Figure I).

In this hospital the routine care of acute gastric ileus may be outlined as follows: Con-

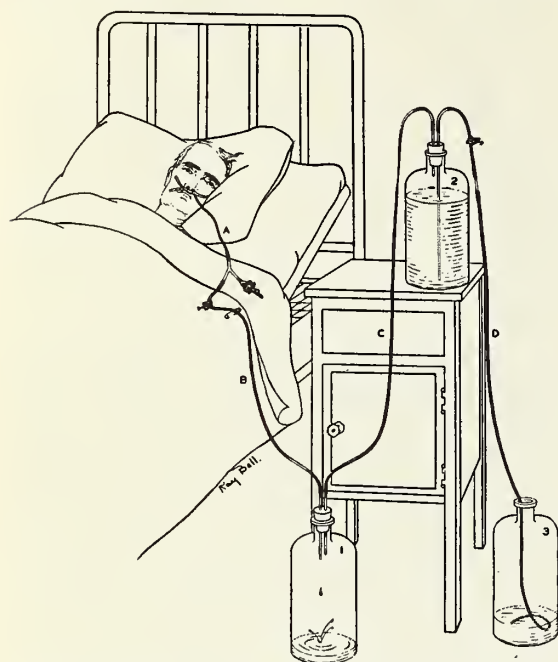


FIG. 1

Suction apparatus used for gastric and duodenal decompression and lavage. A. Levin tube with Y-tube attached for ready cleansing with syringe. B. Rubber tube leading from patient to waste bottle No. 1. C. Rubber tube connecting waste bottle with water supply bottle No. 2. D. Rubber tube connecting water supply bottle with overflow water bottle No. 3. Bottles No. 2 and No. 3 are interchangeable to avoid new supply of water when No. 2 runs low. Tube D. Kept filled with water with lower end immersed in water of bottle No. 3 to maintain continuous suction.

tinuous gastric lavage with suction; regular doses of morphine to increase gastrointestinal tone; thirty-five hundred to four thousand cubic centimeters of fluids daily as physiologic sodium chloride solution and five per cent glucose solution. Two thousand cubic centimeters of saline are usually given by hypodermoclysis and 2,000 cubic centimeters of five per cent glucose in water or saline intravenously. The amount of salt to be given is controlled by repeated blood chloride determinations. As soon as the patient's condition seems to warrant removal of the Levin tube the stomach may be tested by clamping the tube for three hours intervals and then measuring the amount of residue aspirated. If the stomach is emptying properly the treatment may be discontinued.

In the case described above, the suction treatment was continued after the gastric dilatation had subsided. This was done as a therapeutic measure to aid in controlling the uremia which had developed. Gastric suction relieves the vomiting so frequently produced by uremia and it also offers another outlet for the elimination

of nitrogenous products. It is felt that since these elements are excreted into the stomach in uremia they may be partially removed by constant gastric lavage. The accuracy of this last statement is open to question, and work is being done at the present time to determine the logic of such a procedure.

SUMMARY

1. A case of acute dilatation of the stomach, following a very minor surgical procedure, is reported.

2. An effective method of treatment of such cases is outlined. Especial reference is made to the desirability of the use of continuous gastric lavage with suction.

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LABORATORY

FUNCTIONAL EXPLORATION OF THE GASTRO-INTESTINAL TRACT

M. GERUNDO, M.D.

Topeka, Kansas

GENERAL METHODS

Since Spallanzani's conception that the digestion of foods is due to gastric secretion and his attempt to make rudimental analysis of the gastric contents in animals and the physiological systemic studies of the school of Pavlov, the analysis of gastric contents became a part of medical practice, adding a large contribution to the knowledge of gastric diseases. The determination of total acidity, free hydrochloric acid, pepsin and lab ferment, together with the presence of abnormal acid products, blood, bacteria and neoplastic cells, are all too well known to need further mention here.

The analysis of the duodenal content, introduced in the practice by Einhorn in 1909, is valuable not only in bringing to light disturbances of the first portion of the intestinal tract but also disturbances due to hepato-pancreatic insufficiency. For this analysis the pa-

tient must be fasting for a period of twelve hours previous to the test. Upon withdrawing the duodenal fluid the general characteristics are determined. The color is influenced, first by the presence of biliary pigments and varies according to conditions which will be mentioned later, or by the presence of biliverdin, admixtures of gastric juice or blood. The appearance, the amount, the rhythm of flow, the consistency, specific gravity and reaction varies much in different disease and will be discussed later. Analysis may reveal presence of blood, albumin, mucin, pus cells or pathogenic bacteria. Through the introduction into the duodenum of one to four cc. of sulphuric ether, the pancreatic secretion can be stimulated and through the introduction of thirty cc. of a five per cent solution of peptone or, preferably, fifty cc. of a sterile twenty-five per cent solution of magnesium sulphate, hepatic secretion is stimulated, giving information on the concentration of ferments as lipase, amylase and trypsin and of possible hepatic and pancreatic insufficiency.

After the introduction into the duodenum of magnesium sulphate the fluid obtained by aspiration in the first ten minutes is of a golden yellow color and of low viscosity. This fluid is designated as Bile A. After waiting ten or twenty minutes the fluid obtained by aspiration will be more abundant and darker in color as well as rich in biliary pigments and more viscous. This has been designated as Bile B. Ten or fifteen minutes later, the fluid aspirated will be clearer than Bile B, and very similar in aspect to Bile A. This has been designated Bile C. According to various authors Bile A is an admixture of the contents of the common duct with the magnesium sulphate solution, Bile B is the pure contents of the gall bladder, Bile C is from the contents of the hepatic ducts and liver. This test, which may be performed in hospital practice, throws light on the functions of the hepatic system, particularly of the gall bladder, submitting to chemical, microscopic and bacteriological examination the different fluids extracted from the duodenum.

Urinalysis will show increased amounts of aromatic products (indol, scatol) in case of gastro-enteric disturbances, urobilinogen and urobilin, biliary pigments and biliary salts may show a diminished output, together with variation of total acidity, increased amount of pancreatic amylase and glycosuria. This last condition is very seldom found in case of total insufficiency of endocrine and esocrine secre-

tion of the pancreas.

Blood examination will show presence or absence of pancreatic ferments, presence or absence of bilirubin. The recently developed Vander Bergh test for hyperbilirubinemia has proved very useful in laboratory methods, because of the possibility of making differential diagnosis by this means of the various forms of jaundice. Hepatic insufficiency will be spoken of later.

The coprological examination has a place of the first order in gastrointestinal pathology, the importance of which has been unrecognized by the general medical practitioner. As a result, it is less frequently resorted to than it deserves, except for bacteriological or parasitological examinations. In this brief survey of the functional exploration of the gastro-intestinal tract I shall limit the discussion to the biochemical aspects of the problem, which is the most important.

Although not absolutely necessary it would be advisable to have the patient under observation for a few days previous to the test. They should be placed on the Schmidt test diet which is most complete and is as follows:

(1) Morning: 0.5 liter milk and 50 gm. toast. (2) Forenoon: 40 gm. oatmeal, 10 gm. butter, 200 cc. milk, 300 cc. water, one egg and salt to taste. (3) Noon: 125 gm. hamburger steak, with 20 gm. butter, fried so that the interior is quite rare; 250 gm. potatoes, made by cooking 190 gm. potato with 100 cc. milk and 10 gm. butter, the whole boiled down to 250 cc. (4) Afternoon: Same as morning. (5) Evening: Same as forenoon.

At the beginning of the diet the stool should be marked off by the administration of 0.5 gm. of powdered charcoal, watching for the first colored stool.

The aspect and color of the feces are sometimes decisive characters in certain diseases; for example, risiform in cholera and bacillary dysenteries, mucous and muco-membranous in certain forms of entero-colitis, muco-sanguinolent in certain stages of amebic and bacillary dysenteries, purulent in infectious and neoplastic entero-colitis, greasy in hepatic and pancreatic insufficiency. The odor may be very fetid in case of increased putrefactive processes. The reaction, normally neutral or slightly alkaline, may be acid in dyspepsia or fermentation or strongly alkaline in putrefactions or in abundance of mucus. An important diagnostic point is the determination of the amount of nitrogen

in the feces, at the same time that the nitrogen in the urine is estimated. This may reveal abnormal wastes, due to cachexia or other exhaustive diseases. The determination of various fractions of fats, of pigments, particularly of urobilinogen and other biliary pigments and hematic pigments should be made at the same time also in the urine and the blood. The microscopic examination of the feces gives an idea of the total digestion and of abnormal products present at different levels of the gastrointestinal tract. Without entering into technical details microscopic examination may reveal cells and fibres coming from vegetables, grains, of starch, muscular fibres with their characteristic striations, elastic and connective tissue fibres, droplets of neutral fats, crystals of fatty acids, crystals of cholesterin, calcium oxalate and ammonium-magnesiatic phosphate, neoplastic cells, etc. Furthermore the determination of the ferments may give an indication of absence or normality of pancreatic secretion. In order to interpret results, an outline is given of the findings of the various organs.

GASTRIC INSUFFICIENCY

Analysis of the gastric content may reveal an increase of HCl or a decrease in the total acidity in the gastric neuroses. A decrease or a total absence of HCl is symptomatic of gastric carcinoma or pernicious anemia. This last is mentioned here because the writer believes in the gastro-intestinal origin of pernicious anemia. Besides the HCl, free and combined, and the total acidity, the determination of the pepsin and lab ferment may give an idea of the digestive power of the gastric juice. The investigation of the lactic acid and the microscopic examination of the sediment for the Boas bacilli or neoplastic cells, pus or blood cells, may reveal the presence of carcinoma. The finding of starch granules, muscular fibres or vegetable cells in the gastric content during fasting are pathognomonic of stagnation due to obstruction.

Although it is very common to take the gastric contents after a test meal, it is also useful to leave the patient fasting for at least twelve hours and then inject 1 cc. of 1 to 1,000 histamin solution. In about ten to fifteen minutes histamin will stimulate the secretion of an abundant fluid which has the advantage of being free from any admixture of food residues. Besides, in case of gastric ulcer, the secretion may reach in one hour the large amount of 250 to 800 cc. of fluid.

The cromoscopic test also may give indication of gastric function because in the case of hyperchlorhydria, the dye appears in the gastric fluid eight or ten minutes after its subcutaneous injection while it is noticeably delayed in cases of hypochlorhydria.

The examination of feces may reveal the presence of connective tissue and vegetable fibres which, due to the fact that they are digested only by gastric ferments, will indicate gastric insufficiency, if their number is great.

ENTERIC INSUFFICIENCY

The analysis of duodenal contents will show the acidity of the fluid, the presence of albumin, pus cells, mucin or bacteria. Coprologic examination will give an idea of the absorption of foods. The feces may be risiform in cholera and dysentery, mucous or muco-membranous in cases of entero-colitis, muco-sanguinolent in case of amebic and bacillary dysenteries, purulent in cases of infectious entero-colitis. The reaction is alkaline when the mucus or putrefaction are abundant. The presence of enormous amounts of starch granules, mostly undigested, will indicate a defective amylolytic power. The presence of blood is not always pathognomonic of intestinal lesions, as the blood may come from the upper tract. Care should be exercised to distinguish fresh blood of the last portion of the large intestine from old blood coming from higher sections. The presence of soluble albumin in feces is pathognomonic of an ulcerative condition (typhoid, tuberculosis, ulcerative colitis, etc.) The time of passage of the meal through the gastrointestinal tract may be ascertained by giving 0.5 gm. of powdered charcoal and watching for the resulting black stool.

Examination of the urine will show increased acidity and presence of aromatic bodies, indol, scatol, etc., increased uric acid and decreased output.

PANCREATIC INSUFFICIENCY

Examination of the duodenal contents will show presence or absence of pancreatic ferments; a previous injection of 1-4 cc. of sulphuric ether in duodenum will increase the pancreatic secretion. In the case the duodenal contents cannot be examined, due to the difficulty of manipulation or to the desire of the attending physician to avoid inconvenience to the patient, the examination of feces should not be neglected, this examination being the most important after that of the duodenal contents.

It will yield valuable information about the pancreatic function.

The feces contain an enormous amount of neutral and acid fats which are recognized by the typical aspect of liquid, oily matter which solidifies on standing (steatorrhea). The fats can be recognized either by chemical or microscopic examination. In addition to these findings, which are important in the diagnosis of pancreatic insufficiency, there will be noted numerous striated muscular fibers and an increased excretion of nitrogen. The Schmidt nuclei test, based upon the fact that nuclei are digested only by the pancreatic trypsin, is not always reliable and does not give more information than the tests above mentioned. The estimation of pancreatic amylase is very important and the most satisfactory method is as follows:

Upon the evening before the test give light supper and a high enema.

At 7:00 next morning 750 cc. of milk; at 7:30 $\frac{1}{2}$ oz. of Epsom salts, same at 8:00; at 8:30 glass water, in which has been added $\frac{1}{4}$ teaspoonful of sodium bicarbonate. Save all the feces passed up to two p.m. and preserve with toluol in a cool place. Simultaneously collect urine and blood for similar test.

Absence of amylase in the feces, while the same is present in large amounts in the blood and urine, indicates an obstruction of the pancreatic ducts; simultaneous absence of amylase in feces, urine and blood indicates complete pancreatic insufficiency. The presence of hyperglycemia with absence of pancreatic ferments indicates a grave atrophy of the pancreas, which is rare. The physician should not rely on hyperglycemia to make a diagnosis of pancreatitis, but should resort to the complete examination of feces, urine and blood (estimation of ferments, fats and nitrogen) to make certain that pancreatic insufficiency is the cause.

HEPATIC INSUFFICIENCY

We shall discuss here biliary secretion only as related to the digestive function in order to remain within the limits assigned to this paper. The examination of the duodenal contents will give the following information. On the withdrawal of fluid the absence, or very small amount, of Bile B may indicate an obstruction of the cystic duct or an absence of contraction of the gall bladder. An increased flow of Bile B of darker color may indicate a stasis in the

gall bladder. Urobilinogen, normally absent, may be present in cases of cholecystitis or cholangitis. In the sediment the presence of leukocytes or germs indicates a cholangitis or a cholelithiasis. In the latter case crystals of bilirubin and cholesterin may also be found.

Examination of the urine will show presence of bilirubin in cholelithiasis, biliary acids in mechanical icterus, urobilin in cholecystitis and angiocholitis, while the absence of urobilinogen indicates a complete obstruction of the choleduct or a very severe hepatic lesion.

Examination of feces will show absence of stercobilin or stercobilinogen in case of complete obstruction of the choleduct with presence of insoluble soaps, decrease of bilin and bilinogen in case of angiocholitis or incomplete obstruction. The examination of the blood should be undertaken for the determination of hemoconia in the plasma and bilirubin and cholesterin in the serum.

In case of biliary retention the dark-field examination of the plasma will show the absence of hemoconia which are normally present after a meal rich in fats.

The bilirubin test is well known under the name of Van der Bergh's test. The reaction is direct positive in cases of obstructive jaundice, delayed or biphasic in toxic jaundice and indirect in cases of hemolytic jaundice. Much discussion is present as to bilirubins revealed by Van der Bergh's reaction but it is the opinion of the writer that the difference in reaction is due to physico-chemical factors and not to the presence of various bilirubins in the blood. It has been shown by Enriques, recently, that the addition of caffeine to the diazoic reagent causes the appearance of the characteristic color at once, so that a direct reading is possible in case of hemolytic jaundice, while the old method permitted only an indirect reading. Determination of cholesterin will show an increase of such element in case of obstructive jaundice.

In conclusion, the functional exploration of the gastro-intestinal tract offers numerous tests which have been found useful in clinical diagnosis. Their basic principle depends upon the physiology of the alimentary canal and their application to the pathology of the gastro-intestinal tract is the principle of modern medicine, which derives from these two branches, physiology and pathology, exact knowledge of human disease.

TUBERCULOSIS ABSTRACTS

BRONCHIECTASIS—A SEPTIC TANK

The causes of bronchiectasis have long been a subject for discussion, pathological studies, and clinical research. These causes are well known, even if not conclusively proved, and they therefore do not need comprehensive presentation here. There are a few features, however, that do not seem to be generally recognized.

Broadly speaking, the etiological factors generally considered responsible for bronchiectasis include:

1. Congenital factors,
2. Infection, including predisposing causes thereto, foci in sinuses, teeth, tonsils, etc.,
3. Pathological changes in the bronchial wall,
4. Pathological changes in the peribronchial tissues,
5. Obstruction: trachea, bronchi, glottis,
6. Stagnation of secretions,
7. Positive endobronchial air-pressure.

To these should be added a factor largely overlooked, namely, (8) the viscosity of certain bronchial secretions.

In a well developed bronchiectasis three groups of organisms are involved: (1) the primary organisms in the primary focus; (2) the secondary saprophytic organisms that reduce viscosity; and (3) the organisms producing the pus that results from irritation of the bronchial mucosa by the biochemical products of the saprophytes.

The last of these groups has not been generally recognized. When a mucous membrane, such as the bronchial mucosa, is kept in contact with any irritant material, pus is produced. The dilated bronchial sacs are in effect what the sanitary engineer calls septic tanks in which the biochemical products of the saprophytic organisms reduce the viscosity of the secretion, irritate the mucosa and produce pus swarming with organisms. The putrefactive organisms are not the primary ones but enter by way of the inspired air and by means of secretions of the mouth that are normally inspired by everyone during sleep.

The unsatisfactory results of bacteriological studies on bronchiectasis have been attributed to oral contamination, but another factor is that the primary pus is not expectorated at all

because of its high viscosity. It remains in the bronchiectatic septic tank until its viscosity is reduced by putrefaction.

Obviously, the method of obtaining material for bacteriological study is important. By means of the bronchoscope the superjacent pus, which always contains a variety of secondary organisms is first aspirated. Then when additional pus is forced in from the peripheral bronchi by the tussive squeeze (cough), this is collected separately. In it the saprophytes are relatively few and the odor usually is absent. In the residual pus are usually found the important organisms, time after time the same in the same patient. Vaccines prepared from them are of relatively much higher therapeutic value as compared to those from either sputum or the superjacent pus.

Bronchiectatic sputum is generally described as not being very adhesive. This may be true of expectorated sputum but not of the pus when first produced in the bronchi. Before saprophytic changes have taken place in the "septic tank" bronchiectatic pus is of tremendously high viscosity. This tenaciousness is a basic etiological factor in the disease. Because of it the pus cannot be efficiently expelled by cilia or bechic blast until its viscosity is diminished by putrefactive processes. The septic tank is not only a receptacle for septic materials but a container where bacterial processes change the character of the contents. These changes in the secretion constitute nature's way of rendering it easier of expulsion by reducing its viscosity. Unfortunately, however, they also render it more irritating and the stagnation of this irritating material promotes pathological changes in the bronchial walls, and thus constitutes an important etiological factor in bronchiectasis. The bronchiectatic septic tank exacts a fearful price for drainage.

PROPHYLAXIS AND TREATMENT

The removal of the viscid pus with a powerful aspirator should be instituted early in any suppurative disease of the bronchi. If, after the acute stage of any bronchial or pulmonary infection is over, there is not a progressive improvement in the signs, symptoms and roentgen-ray findings under medical care and management, including as it should postural drainage, bronchoscopic drainage should be instituted once or twice a week. This will often restore the defensive power of the lung and thus turn the tide.

To this should be added the administration of vaccines prepared from the material removed by the bronchoscope from the depths of the suppurative focus. Opiates that annihilate the cough reflex and drugs, such as atropin, that thicken the secretions should be omitted.

Of utmost prophylactic importance is of course the elimination of infective foci in the teeth, tonsils and nasal accessory sinuses. It has been abundantly proved that in suppurative diseases of the bronchi and lungs the source of the infection is a focus in the region of the upper air-passages and there is much evidence to show that the route travelled is by the lymph channels as well as the air-passages. Prophylactic measures, therefore, are wisely undertaken, (1) before the onset of suppurative bronchial disease; (2) after the first bronchial symptoms; and (3) after bronchiectatic conditions have developed, to prevent reinfection and recurrence.

As in the prophylaxis of tuberculosis, all details of continuous medical care and management are of utmost importance; but they need no enumeration here. They should include prolonged daily rest in bed under outdoor conditions to increase resistance and build up a reserve.

It is of fundamental prophylactic importance for early diagnosis of every bronchopulmonary disease that every case of cough be run down to a definite cause and a definite lesion if possible. This is hypothetically admitted but practically it is not often done.

The prognosis is greatly improved by the use of bronchoscopic methods including (1) study of the local pathological conditions; (2) the elimination of the aggravating processes of the septic tank and (3) the discovery and cure of obstructive conditions.

If prophylaxis has been neglected and the septic tank condition has been established through study with the bronchoscope, including search for the underlying cause and an appraisal of the damage already done, is advised. Separate specimens are taken of the superjacent pus and the residual pus. Vaccines are prepared from the organisms predominating in the residual pus.

Local medication, using diluted neoarsphenamin, acriflavin, or other germicides may be helpful. The usual management of bronchiectasis is, of course, essential. The patient should be kept in bed under outdoor conditions the greater part of the day. Postural drainage should never be neglected and if possible it

should be used at every coughing paroxysm. The cough should not be inhibited; in fact when a patient feels a paroxysm of coughing coming he should at once assume the most favorable posture and assist expectorative efficiency to the utmost.

Furnished by National Association for Prevention and Cure of Tuberculosis.

MEDICAL LITERATURE

Edited by William C. Menninger, M.D.

NEW ENCEPHALOGRAPHIC TECHNIQUE

Much of the objection to the present encephalographic method used is the serious discomfort of the patient. Castex and Ontaneda report a new method in which there is an insufflation of the air by a double puncture method of both the cistern and the lumbar regions. Their system is based on the existing difference of tension between the fundus of the dural cavity and the cistern. They attach a glass container filled with air connected to a needle and inserted into the cistern and another needle into the dural cavity. Then the lumbar liquid will pass into the glass container due to its lighter pressure, dislodging the air harbored in it and then it sends this air into the cistern and finally into the endocranium without practically altering the endocranial tension. They have tried this method on one hundred cases and found it very satisfactory.

Castex, M. R. and Ontaneda, L. E.: NEW ENCEPHALOGRAPHIC TECHNIQUE: Insufflation of Air by the Double Puncture Method—Cisternal and Lumbar Combined. *Radiology* 23:551-557 (Nov.) 1934.

TREATMENT IN OCCLUSIVE VASCULAR DISEASES OF EXTREMITIES

This paper is a report from the Michael Reese Hospital Clinic, Chicago, and is based on the treatment used in one hundred cases of organic occlusive vascular disease that have been under care for six months or more. They discuss various methods of treatment for these different conditions. The first consists of a regime of rest, contrast baths, Buerger's exercise several times daily and heat locally in the form of a baker at home. Patients who do not improve under this regime are given a more radical form of treatment such as typhoid vaccine or hypotonic sodium chloride solution intravenously. They have used acetylcholine and tissue extract with fair results in a few cases of arteriosclerotic ischemia and thrombo-angiitis obliterans. Deep roentgen therapy in the region of the lumbar

sympathetic chain was given in several cases which did not improve on any of the other forms of treatment. In those individuals troubled with pains in the extremities they found that a peripheral nerve block either by the injection of alcohol directly into the trunk or by crushing or cutting the nerve, would give relief lasting from three to twelve months. Another minor operation to relieve pain is the ligation of the popliteal vein. Seventy-one per cent of one hundred cases improved.

Perlow, S.: CONSERVATIVE TREATMENT IN OCCLUSIVE VASCULAR DISEASES OF THE EXTREMITIES. Results in 100 cases. *Annals of Internal Medicine* 8:741-746 (Dec.) 1934.

CAUSES OF COMA

The causes of coma in 1,167 patients entering the Boston City Hospital in 1933 were studied and analyzed. Of this group alcohol was responsible in 59.1 per cent; trauma in 13 per cent; cerebrovascular lesions in 10.1 per cent, and the last two made up more than one-half of the non-alcoholic comas. Other causes included poisoning, epilepsy, diabetes, meningitis, pneumonia, cardiac decompensation, exsanguination, syphilis of the central nervous system, uremia and eclampsia.

Solomon, P. and Aring, C. D.: THE CAUSES OF COMA IN PATIENTS ENTERING A GENERAL HOSPITAL. *Am. J. Med. Sc.* 188:805-811 (Dec.) 1934.

BLOOD SUGAR VALUES OF THE RELATIVES OF DIABETICS

The authors of this paper, Drs. Pincus and White, have been carrying on a series of studies on the inheritance of diabetes in Dr. Joslin's Clinic in Boston. This is the third of these studies. They examined 169 close relatives of known diabetics. Approximately fourteen per cent of the group of relatives were given routine blood sugar examinations and twenty-five per cent of those given sugar tolerance tests had abnormally high blood sugar values when compared with similar determinations made upon control groups of normal, healthy persons with no family history of diabetes incidence. They believe that if these tests have any general significance they indicate that the establishment of normal blood sugar values requires the strict exclusion of relatives of diabetics from the group of persons supplying the data.

Pincus, G. and White, P.: THE INHERITANCE OF DIABETES MELLITUS. III. The Blood Sugar Values of the Relatives of Diabetics. *Am. J. M. Sc.* 188:782-790 (Dec.) 1934.

TREATMENT OF WHOOPING COUGH

These writers from the Department of Pediatrics of the University of California Medical School report on the treatment of 232 pa-

tients in the out-patient clinic with pertussis with undenatured pertussis antigen. These patients were under close observation and the diagnosis was based on symptomatology, blood counts, and cross plates. They established criteria in judging their results: good results consisted in the abatement of severe symptoms within one week or less; fair results, abatement within two weeks; poor results, persistence of severe symptoms for over two weeks. On this basis they observed approximately seventy-eight per cent of good, fourteen per cent of fair and eight per cent of poor results in patients seen during both the catarrhal and the paroxysmal stages of the disease. Of eighteen patients with no previous history of whooping cough and with intimate exposure to the disease in their own family, eleven showed no symptoms and seven had extremely light symptoms.

Stallings, M. and Nichols, V. C.: TREATMENT OF WHOOPING COUGH WITH AN ACTIVE UNDENATURED ANTIGEN. *Am. Jr. Dis. Child.* 48:1183-1192 (Dec.) 1934.

SYPHILIS OF THE LUNG

Syphilis of the lung is rare and questionably demonstrated short of the autopsy table. This author presents the case of a colored man of thirty-eight which presented the symptoms of a chronic, tuberculous pulmonary infection but responded symptomatically to anti-syphilitic treatment. He had a positive Wassermann and this eventually became negative although the x-Ray revealed little if any change in the shadow of the right base of his chest. The picture was complicated by a syphilitic aortitis as well as a mitral stenosis and insufficiency. He regards the case as one of pulmonary syphilis.

Homan, R. B., Jr.: PULMONARY SYPHILIS. Report of a Case. *Southwestern Medicine* 18:379-381 (November) 1934.

AVERTIN IN PRE-ANESTHETIC MEDICATION

These writers from the Department of Pharmacology of Western Reserve University report on 1,831 surgical anesthetics in which avertin was used in the pre-anesthetic medication. They detail the pulse rate, blood pressure, respiration, restlessness, postoperative sleep, nausea and vomiting, urinary findings in this large series of cases, as well as observations on various surgical groups. All of the patients were given morphine and atropine and avertin in doses from 50 mgm. to 100 mgm. per kilog. of body weight, in many instances supplemented with several types of general anesthetic. They report the advantages as well as the disadvantages; among the disadvantages they notice albumin in thirty per cent of cases and casts in seven

per cent. Also there was a rather significant fall in the blood pressure and a definite depression of the respiratory volume. The combination, however, of these drugs reduced the frequency of pulmonary complications significantly as compared with morphine-ether sequence. The duration of postoperative sleep bore little relation to the dose of avertin used and postoperative restlessness was observed in from twenty per cent to sixty per cent of the patients, tho was not troublesome from a nursing standpoint.

Barlow, O. W., Fife, G. L., and Hodgins, A. C.: AVERTIN IN PRE-ANESTHETIC MEDICATION: A survey of 1,831 Surgical Anesthesias. *Archives of Surgery* 29:810-827 (Nov.) 1934.

TREATMENT OF INFLAMMATIONS BY X-RAY

Anyone interested in treating any sort of inflammatory reaction by x-Ray would be interested in the very extensive review of the literature given by Dr. Watkins in this article. He summarizes very briefly the various forms of inflammatory disease which have been treated by x-Ray therapy, according to the year and also giving the author and the reference in the literature. These, then, are all grouped together and briefly discussed, and the article is more of a review of the literature than it is any original work on the part of the author. He takes a conservative attitude in recommending x-Ray treatment, stating that while it may be very important and often highly essential, nevertheless it should be integrated in a proper relation to other general and local measures.

Watkins, W. W.: TREATMENT OF INFLAMMATIONS BY X-RAY. *Southwestern Medicine* 18:336-346 (October) 1934.

MUMPS MENINGO-ENCEPHALITIS

The author reports a summary of seven cases of mumps meningo-encephalitis all of which recovered. In these cases the meningeal symptoms coincided with the swelling of the parotid glands in only one instance, while in the other six the former succeeded the latter in from one to seven days. All patients showed some swelling of the parotid glands. He believes that the incidence of meningo-encephalitis varies with different epidemics of mumps and it is erroneous to regard it as a complication of mumps; rather the infection is apparently due to a virus which has a predilection for the salivary glands, the meninges, the pancreas, the encephalon and the mature gonads. In any event fatalities have been rare.

Montgomery, J. C.: MUMPS MENINGO-ENCEPHALITIS. *Am. J. Dis. of Children*. 48:1279 1283 (Dec.) 1934.

ACUTE LEUKEMIA WITH PRIMARY SYMPTOMS IN THE RECTUM

The first manifestation of leukemia is admittedly a difficult thing to recognize although it is generally known that the majority of cases show some difficulty in the nose or throat, particularly in the tonsils. These writers report a case in which the first symptoms were hemorrhoids with a prolapse and treated as such; only secondarily did they determine that the man's chief difficulty was his acute leukemia. This was a male, age forty-nine, whose moderate anemia was attributed to his hemorrhoids. During a period of six weeks between his first operation and his readmission his white count had risen from 8,500 to 207,500. The case ended fatally.

Walsh, G. and Stickley, C. S.: ACUTE LEUKEMIA WITH PRIMARY SYMPTOMS IN THE RECTUM, A Rapid Increase in the White Cells and a Fatal Outcome. *Southern Medicine and Surgery* 96:648-649 (Dec.) 1934.

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NEWS NOTES

STATE MEETING PROGRAM

Members of the Kansas Medical Society will meet at Salina, May 8, 9, and 10 for one of the most interesting and unusual state meetings in the history of the Society. Special care has been taken in the selection of the speakers and also in plans for the program by way of entertainment for those attending.

The following is a list of the guest speakers who will appear on the programs:

C. H. Warfield, M.D., B.S., Chicago

Assistant Professor of Medicine at Loyola University Medical School, and Professor of Roentgenology of Cook County Graduate School of Medicine. Director of Department of x-Ray, Cook County Hospital. Member of Chicago Medical Society, Illinois State Medical Society, American Medical Association, and Chicago Roentgen Society. Graduate of University of South Dakota. Received Medical Degree from Northwestern University School. Interned two years at Wesley Memorial Hospital, and specialized two years in x-Ray at University of Michigan.

Sanford R. Gifford, M.D., M.A., F.A.C.S., Chicago

Professor of Ophthalmology, Northwestern University Medical School. Attending Ophthalmologist at Passavant, Wesley, Evanston, and Cook County hospitals.

A. Carlton Ernestine, M.D., A.B., Cleveland

Member of Staff of Cleveland Clinic as Associate Physician in Cardio-Respiratory division. Member of the American Society for Clinical Investigation, American Heart Association, Society for Experimental Biology and Medicine, American Association for the Advancement of Science, and Fellow of the American Medical Association.

Oswald Swinney Lowsley, M.D., B.A., New York

Director of Department of Urology, James Buchanan Brady Foundation, New York Hospital; consulting urologist, hospital for the ruptured and crippled, Stuyvesant Square Hospital, and New York Infirmary for Women and Children. New York. Peekskill Hospital, Jamaica Hospital, King's Hospital, Nassau Hospital, Mineola and Bloomingdale Hospital, Monmouth Memorial Hospital, Fitkin Memorial Hospital, Norwalk General Hospital, and Stamford Hospital.

James B. Costen, M.D., A.B., St. Louis

Instructor in Oto-laryngology, Washington University School of Medicine. Assistant in Oto-laryngology, Barnes and St. Louis Children's Hospital, Surgeon to out patients, Washington University Dispensary; Consultant in Oto-laryngology, St. Luke's Hospital.

George Crile, M.D., LL.D., M.CH., F.R.S.C.

(Eng., Ire.) D.S.M., 3rd Laureate of Lannelongue Foundation of the Societe Internationale de Chirurgie, de Paris, Cleveland. Western Reserve University of Medicine, Director, Cleveland Clinic Foundation, Surgeon, Cleveland Clinic Hospital.

Wm. D. Haggard, M.D., D.C.L., Nashville, Tenn.

University of Tennessee College of Medicine. Professor of Clinical Surgery, Vanderbilt University School of Medicine; Surgeon, Vanderbilt University and St. Thomas hospitals.

James Payton Leake, M.D.

United State Public Health Service, Washington, D.C.

Irvine MaGuarrie, M.D., Minneapolis

M. Edward Davis, M.D., B.S., Chicago

Associate Professor of Obstetrics and Gynecology at the University of Chicago Medical School. Attending obstetrician and gynecologist to the Chicago Lying-in Hospital, and attending gynecologist to the Albert Merritt Billings Hospital. Fellow of American College of Surgeons, Honorary Fellow of the Des Moines Academy of Medicine, Diplomate of the American Board of Obstetricians and Gynecologists, Fellow of the Chicago Gynecological Society, Fellow of the Central Association of Obstetricians and Gynecologists.

REGISTRATION DIRECTORY

Dr. C. H. Ewing, Larned, secretary of the Kansas Board of Medical Registration and Examination, has announced that a directory of Kansas physicians will be issued on approximately March 1, 1935. Listing will be alphabetically by counties, and under the annual registration act, only physicians licensed for 1934 can be shown. Dr. Ewing requests immediate registration by all physicians not now registered inasmuch as the directory will appear as an official roster of all persons licensed to practice medicine in this state.

BRINKLEY HEARING

Six past and present members of the Board of Medical Registration and Examination, and Drs. L. F. Barney, Kansas City; W. F. Bernstorf, Pratt, and M. C. Martin, Newton, were in Topeka from January 21-25, for a hearing in Federal Court on a pending injunction brought against the Board several years ago by John R. Brinkley.

Witnesses were mostly members of the Board at that time, events leading to revocation of Brinkley's license were presented, and briefs on points of law involved were submitted for later decision. Brinkley did not attend.

COUNCIL MEETING

The annual midwinter meeting of the Council was held jointly with the Executive Secretary Committee, and the Legislative Committee on January 15, in Kansas City.

Members present were: Drs. J. F. Hassig, Kansas City, president; W. F. Bowen, Topeka, retiring president; H. L. Snyder, Winfield, vice-president; H. L. Chambers, Lawrence, secretary; Geo. M. Gray, Kansas City, treasurer; R. T. Nichols, Hiawatha; L. F. Barney, Kansas City; E. C. Duncan, Fredonia; O. P. Davis, Topeka; J. T. Axtell, Newton; H. N. Tihen, Wichita; C. C. Stillman, Morganville; Alfred O'Donnell, Ellsworth; H. O. Hardesty, Jennings; C. D. Blake, Hays; C. H. Ewing, Larned; N. E. Melencamp, Dodge City; W. M. Mills, Topeka; W. F. Bernstorf, Pratt; C. C. Nesselrode, Kansas City; L. D. Johnson, Chanute; E. C. Morgan, Clay Center.

Major matters discussed were as follows: A committee from Saline County Medical Society composed of Drs. Ned Cheney, L. S. Nelson, and E. G. Padfield, all of Salina, outlined tentative plans for the 1935 state meeting to be held in Salina on May 8, 9, 10, which were approved. Authorization was given for immediate appointment of a committee on medical economics. A plan was adopted whereby councilors will assist in the development of business organizations in each county for local handling of business and economic matters even though mem-

bership may be desired in adjoining societies or group societies. Health insurance proposals, medical relief and legislation were discussed. Regular audits and a standardized accounting system were approved for the executive secretary office. Action was taken to invite county society officers to future midwinter meetings of the Council. Dr. Hassig was authorized to approve projects to be undertaken for 1935, and reasonable expenses incidental thereto. A resolution adopted unanimously provided that no expense accounts should be rendered to the Society for attendance at the meeting.

Upon completion of business, all members were invited to attend a dinner-dance given by the Wyandotte County Medical Society.

Complete details of the meeting, including data on other business and economic matters has been forwarded by bulletin to county secretaries for presentation at county society meetings.

DEATH NOTICES

Dr. C. M. Brown, 46 years of age, died at his home in Kansas City, on January 13. He was a graduate of the University Medical College, Kansas City, Mo., in 1913, and began his practice at Basehor, moving to Kansas City five years later where he practiced for sixteen years. He was a member of the Wyandotte County Medical Society and the Greater Kansas City Eye, Ear, Nose and Throat Society.

Dr. Truman G. Burris, 64 years of age, died at the Hatcher Hospital in Wellington, January 9, following a serious fall on the morning of December 29, which ultimately caused his death. He was a graduate of the Northwestern Medical College, St. Joseph, Mo., in 1893 and then started practicing in Allen. Later he went to Ottawa for a time, and had been practicing at Conway Springs for twenty-seven years at the time of his death. He was a member of the Sumner County Medical Society.

Dr. J. Z. Hoffman, 73 years of age, died in Wichita on January 28, of coronary thrombosis. He was born in Maytown, East Donegal Township, Pennsylvania, and received his medical degree from the University of Pennsylvania, in 1886. He went to Wichita in 1888 and established a practice there. He was a former president of the Sedgwick County Medical Society and secretary of the old South Kansas Medical Society for many years. He was elected to honorary membership in the Sedgwick County Medical Society at the time of his retirement from active practice in 1930.

Dr. A. B. Jeffrey, 55 years of age, died in Christ's Hospital in Topeka on January 25. He underwent an abdominal operation January 17 and complications developed, causing his death. He was born in Valparaiso, Chile, and came to the United States four years later. He was graduated from the Northwestern University Medical College in 1906, and came to Topeka in 1907 and established a practice. He served a year in a British war hospital at Epsom Downs, England, during the World war.

Dr. Frank Lightfoot, 84 years of age, died at St. Rose Hospital in Great Bend on January 8. He had made his home at the hospital for the past year and had been city health officer for the past year and a half. He was born in Chatham, Kent County, England, February 14, 1850.

He came to America in 1885 and went to Milwaukee, Wis., to live but moved to Oshkosh, Wis., six months later. He was a graduate of the Rush Medical College in 1876 and practiced his first year in Nenah, Wis. He went to Ellinwood in 1878 and was there six months and finally settled at Great Bend, where he practiced up until four years ago when his health failed and he was forced to give up his practice.

MEMBERS

Dr. Robert M. Carr has opened an office in Junction City upon returning from Chicago, where he spent the past six months in the Passavant Hospital, following his internship at the Kansas City General Hospital.

Dr. D. D. DeNeen, Iola, has been elected to the Allen County Medical Society.

Dr. Osee May Dill has been appointed to fill a vacancy left by Dr. Marjorie Eberhart in the student health department at the Kansas State Agricultural College. She is a graduate of the school of medicine at Indiana University and was stationed for six years at a hospital and women's industrial home of the United Provinces of India. She served an internship in Detroit and took post graduate work at Tulane University at New Orleans. For the past several years she has been practicing medicine in Indiana.

Dr. Armand Fischer has returned from a ten-day trip to New York where he attended a clinical orthopedic convention.

Dr. W. A. Grosjean, formerly of Winona, has returned from duty as a reserve officer in the Army Medical Corps near Hot Springs, Ark., and has established an office in Colby.

Drs. H. F. Hyndman, F. J. McEwen, and H. W. Palmer, all of Wichita, have recently been elected to membership in the American College of Physicians.

Drs. Ellis B. McKnight, Alma, and Clifton Hall, Topeka, have been elected to membership in the Shawnee County Medical Society.

Dr. J. M. Mott, Lawrence, city health officer, has supervised a campaign to have all children in the city immunized against typhoid fever.

Dr. C. E. Phillips opened his new office in Pratt on December 31, having recently moved there from Liberal.

Drs. T. W. Reid, Gardner, and R. M. Isenberger, Overland Park, were recently elected as members of the Johnson County Medical Society.

Dr. H. R. Ross, Junction City, child health director, State Board of Health, spoke before the Lions club in Kansas City on December 27. His subject was "Full Time Health Program for Kansas Communities." Dr. Ross' talk was preliminary to work to be done in formulating a preventative health campaign in that city and county. Others appearing on the program were: Dr. Lawrence Growney, county physician; Dr. H. W. Kassel, city health head; Dr. Fred Richmond, secretary of the Kansas Dental Society, and Dr. H. L. Regier, president of the Wyandotte County Medical Society, all of Kansas City.

Dr. L. H. Sarchet, county health officer, Wellington, met with the city commissioners of Caldwell to discuss a

milk ordinance for that city. Dr. D. E. Kisecker, Caldwell health officer, also attended the meetings.

A symposium on Coronary Artery Disease was held at the Menninger Sanitarium, Topeka, on January 23. Dr. Morris Ginsberg, and Prof. O. O. Stoland, of the University of Kansas, Lawrence; Dr. Robert Koritschner, Menorah hospital, Kansas City, and Dr. Karl A. Menninger, Topeka, were the principal speakers on the program. Fifty-five physicians from White City, Miltonvale, Hays, Valley Falls, Emporia, Greensburg, Salina, Holton, Junction City, Horton, Lawrence, and Luray, Kansas; St. Joseph, Mo.; Normal, Okla.; Denver, Colo.; and Clovis, New Mexico, attended the dinner which preceded the program.

ELLIS DOCTORS CLUB

A doctors club has been organized by the thirteen physicians of Ellis county, whose main purpose is the establishment of relations with the county commissioners regarding the care of the indigent, and other business matters. Dr. J. R. Betthausen is president, and Dr. H. R. Bryan, secretary-treasurer, and meetings are held montly. All the members also have membership in the Central Kansas Society. At a meeting on January 21 in Hays, Dr. C. D. Blake, Hays, gave a report of the Council meeting, held in Kansas City on January 15. Following this, a discussion of the basic science bill was held and it was suggested that the appointed members of the examination board should be chosen from the staff of basic science instructors of Kansas colleges.

BOOK REVIEWS

SURGICAL CLINICS OF NORTH AMERICA.

October 1934. Lahey Clinic Number. Published by W. B. Saunders Co., Philadelphia. The most interesting part of this book for general surgeons—and valuable to internists as well—is the group of papers on the stomach, gall bladder, and thyroid. Included in these one finds an evaluation of symptoms in the diagnosis of carcinoma of the stomach; an interesting report of the postoperative course of three patients who had submitted to total gastrectomy; a concise discussion of the treatment of peptic ulcers, and hemorrhage from ulcers, including both surgical and medical treatment; a plan for the management of painless jaundice, of gallstones, and of post-operative bleeding in jaundiced patients; and the essentials of the diagnosis and treatment of toxic goiter, emphasizing those causes associated with cardiac disease and those in patients over sixty years of age. Making the volume a well rounded Clinic number, there are also papers on lung abscess, empyema, trigeminal neuralgia, brain abscess, subtemporal decompression, fractures of the pelvis and of the bones of the hands and feet, plantar warts, bladder neck contracture in women, and intratracheal anesthesia. The volume is a credit to both the authors and the publishers. —O. R. C.

NEW BOOKS RECEIVED

THE 1934 YEARBOOK OF PEDIATRICS, by Dr. Isaac A. Abt, professor of pediatrics, Northwestern University Medicine School, and Dr. Arthur F. Abt, associate in pediatrics, Northwestern University. Published by The Year Book Publishers, Chicago, at \$2.50 per copy.

SCULPTURE IN THE LIVING, by Dr. Jacques W. Maliniak, plastic and reconstructive surgeon at Sydenham

Hospital, New York City; St. Peter's Hospital, New Brunswick, N. J.; Beth Israel Hospital, Newark, N. J. Published by The Lancet Press, New York, at \$3.00 per copy.

THE CRIPPLED AND THE DISABLED, by Dr. Henry H. Kessler, medical director of the New Jersey Rehabilitation Commission. Published by the Columbia University Press, at \$4.00 per copy.

HUMAN ANATOMY—First and Second Dissection by Dudley J. Morton, associate professor of anatomy, College of Physicians and Surgeons, Columbia, University. Published by the Columbia University Press, New York City, at \$6.00 per copy.

OBSERVATIONS OF A GENERAL PRACTITIONER, by Dr. William N. Macartney. Published by Richard G. Badger, Boston.

HOW TO PRACTICE MEDICINE, by Dr. Henry W. Kemp, New York. Published by Paul B. Hoeber, Inc., New York.

MORBIDITY REPORT

New communicable disease cases in the state as compared with last month are reported by the Kansas State Board of Health as follows:

Disease	Month ending January 19	Month ending December 22
Measles	1649	973
Chickenpox	684	625
Scarlet fever	414	278
Pneumonia	480	198
Whooping cough	197	191
Syphilis	90	145
Mumps	279	126
Gonorrhea	41	110
German measles	398	77
Tuberculosis	56	70
Diphtheria	49	37
Smallpox	8	9
Typhoid fever	8	7
Meningitis	6	7
Influenza	52	7
Cancer	8	6
Pink-eye	5	4
Vincent's angina	2	4
Undulant fever	5	4
Scabies	2	4
Encephalitis	4	3
Poliomyelitis	0	2
Tularaemia	12	2
Tetanus	1	1
Rabies	0	1

COUNTY SOCIETIES

The members of the Allen County Medical Society held a dinner and meeting January 17 in Iola followed by a program on which the guest speakers were, Dr. D. V. Conwell, and Dr. L. E. Peckenschneider, both of Halstead. Dr. L. D. Johnson and Dr. James A. Butin, of Chanute were guests of the society.

Dr. H. L. Charles, Atchison, was elected president of the Atchison County Medical Society at the January meeting. Drs. Chas. H. Finney, and T. E. Horner, were

(Continued on Page 82)

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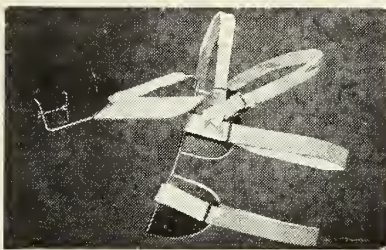
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respectively elected vice-president and secretary-treasurer, for the coming year.

The Butler-Greenwood County Medical Society met on January 11 in El Dorado, and Dr. Philip Morgan, Emporia, gave a paper on "Heart Disease." Newly-elected officers for 1935 are as follows: Dr. G. E. Kassebaum, El Dorado, president; Dr. B. J. Cabeen, Leon, vice-president; Dr. W. E. Janes, Eureka, secretary-treasurer.

Dr. W. R. Morton, Green, was elected president of the Clay County Medical Society at a meeting on December 12, in Clay Center. Other officers elected were: Dr. J. S. Scott, Clifton, vice-president; Dr. E. C. Morgan, Clay Center, secretary-treasurer; Dr. F. R. Croson, Clay Center, censor and delegate to the state meeting. A paper on "Ectopic Gestation", by Dr. Robert Wilson, Kansas City, and one on "Hoarseness", by Dr. Homer A. Beal, Kansas City, Mo., were presented and a discussion of these papers was held by members of the society.

At a meeting of the Cloud County Medical Society in January at Concordia, Dr. L. E. Haughey, Concordia, was elected president; Dr. C. D. Kosar, Concordia, vice-president; Dr. J. M. Porter, Concordia, secretary-treasurer for the coming year. Drs. P. T. Bohan, Earl C. Padgett, and F. C. Helwig, all of Kansas City, Mo., spoke before a meeting of the society on January 17 in Concordia.

Dr. A. N. Gray, Burlington, was elected president and Dr. H. C. Tomlinson, Burlington, secretary-treasurer, of the Coffey County Medical Society for the coming year at a meeting in Burlington on January 17. Dr. E. C. Duncan, Fredonia, was the guest speaker of the evening. The secretary reports that regular monthly meetings will be held during 1935.

Dr. F. L. Holcomb, Coldwater, was elected president of the Comanche County Medical Society for the coming year. Dr. H. F. Craig, Protection, will be the vice-president, and Dr. R. A. J. Shelley, Coldwater, secretary-treasurer.

Members of the Cowley County Medical Society met in Winfield on January 20. Dr. Clifton Hall, Tuberculosis Division, State Board of Health, Topeka, gave a talk on skin tests for tuberculosis. Drs. H. H. Jones, M. J. Dunbar, of Winfield, and Dr. W. G. Weston, Arkansas City, also gave papers.

The Doniphan County Medical Society has reported that they will hold regular monthly meetings during the coming year. Dr. C. E. Waller, Troy, will preside as president, Dr. R. R. Clutz, Bendena, vice-president, and Dr. Ray Meidinger, Highland, as secretary-treasurer.

At a meeting of the Ford County Medical Society Dr. R. D. Russell, Dodge City, was elected president; Dr. W. F. Pine, Dodge City, vice-president; Dr. C. L. Hooper, Dodge City, secretary-treasurer; Dr. C. E. McCarty, Dodge City, censor. Dr. Hooper will be the delegate to the state meeting.

The Golden Belt Medical Society held their 181st quarterly meeting in Abilene on January 10, as a joint meeting with the Dickinson County Society. The program started at 3:00 p. m. and concluded with a dinner at 6:30 p. m. The following speakers and subjects appeared on the program: Dr. Barrett Nelson, Manhattan,

"Breast Tumors", with a discussion conducted by Dr. C. D. Blake, Hays; Dr. M. G. Sloo, Topeka, "Pneumonia", and discussion by Dr. George F. Davis, Kanopolis; Dr. Charles Rombold, Wichita. "The Treatment of Fractures with Local Anesthesia", and discussion by Dr. M. E. Pusitz; Dr. J. M. Porter, Concordia, "The Changing Concept of Heart Disease", discussion by Dr. E. M. Sutton, Salina; Mr. A. M. Tracewell, Kansas City, Mo., "As a Layman Sees the Doctor"; Dr. Fred J. McEwen, Wichita, "Myocardial Failure and Edema", discussion by Dr. J. G. Stewart, Topeka. Dr. Earl Vermillion, Salina, is the president of the society and Dr. J. L. Lattimore, Topeka, is secretary.

The annual dinner and election of officers of the Johnson County Medical Society was held in Olathe on December 10. Dr. Roy Mills, Kansas City, Mo., guest speaker of the evening, talked on "Digitalis and Heart Disease". Officers elected were: Dr. James B. Weaver, Kansas City, president; Dr. A. S. Reece, Gardner, vice-president; Dr. D. E. Bronson, Olathe, secretary; Dr. Edmer Beebe, Olathe, treasurer; Dr. P. L. Jones, Lenexa, censor. At the meeting on January 7, a committee was appointed by the president to study state medicine and insurance contracts for a report at the next meeting. Dr. Lawrence E. Wood, University of Kansas, gave a paper on "Bronchiectasis."

Dr. G. W. Hay, Parsons, was elected president of the Labette County Medical Society in Parsons on December 26. Drs. Charles Miller, Parsons, and L. H. Proctor, Parsons, were respectively elected vice-president and secretary-treasurer of the society. Dr. George Knappenberger, Kansas City, Mo., was the guest speaker on the program and presented a discussion on "Intestinal Diseases" and described three clinical cases.

A program including speeches by Dr. L. F. Barney, Kansas City; Dr. E. C. Duncan, Fredonia; Dr. J. F. Hassig, Kansas City, and Dr. J. W. Kelly, Louisburg, was given at the meeting of the Linn County Medical Society in LaCygne on January 10.

The Meade-Seward County Medical Society met on January 17 in Liberal and elected the following officers for 1935: Dr. E. J. McCreight, Liberal, president; Dr. A. L. Hilbig, Liberal, vice-president; Dr. W. N. Lemmon, Liberal, secretary-treasurer. The basic science bulletin of the Legislative Committee was discussed and committees appointed for action on this bill.

The following officers were elected to office at a meeting of the McPherson County Medical Society in McPherson during January: Dr. G. R. Dean, president; Dr. V. C. Price, vice-president; Dr. A. M. Lohrentz, secretary-treasurer, all of McPherson.

Members of the Montgomery County Medical Society elected the following officers at their annual banquet and meeting in Independence on December 18: Dr. O. W. Ellison, Independence, president; Dr. C. O. Shepard, Independence, secretary-treasurer; and Dr. W. S. Hudiburg, Independence, censor. After the business meeting a play was given by the students of the High School Dramatic club.

Members of the Neosho County Medical Society elected

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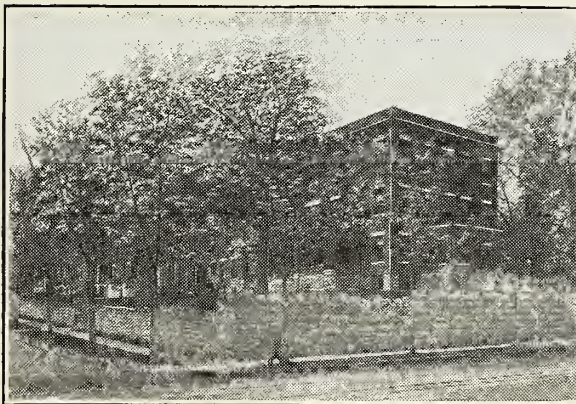
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officers for the coming year at their January meeting in Chanute, as follows: Dr. L. D. Johnson, Chanute, president; Dr. Luther Cone, Chanute, vice-president; Dr. E. C. Bryan, Erie, secretary-treasurer.

Dr. T. L. Foster, Larned, was elected president of the Pawnee County Medical Society at their January meeting in Larned. Dr. C. E. Sheppard, Dr. Mary H. Eliot, and Dr. John A. Dillon, all of Larned, were respectively elected, vice-president, secretary-treasurer, and state meeting delegate.

Drs. Hunter Duvall, Harold R. Barnes, and W. N. Mundell, all of Hutchinson, were elected respectively president, vice-president and secretary-treasurer, of the Reno County Medical Society for the coming year.

A program consisting of papers by Dr. V. L. Pauley, Wichita, on "Trans-urethral Prostatic Resection" demonstrated with lantern slides, "The Functioning of the State Medical Society", by Dr. C. D. Blake, Hays, and "State Medical Society" by Dr. C. H. Ewing, Larned, was presented at the Rush-Ness Medical Society meeting in Alexander on January 16. The following officers were elected for the coming year: Dr. N. W. Robinson, Bison, president; Dr. T. F. Brennan, Ness City, vice-president; Dr. W. J. Singleton, LaCrosse, secretary-treasurer.

Dr. N. P. Sherwood, professor of bacteriology, University of Kansas, was the guest speaker at the regular meeting of the Shawnee County Medical Society in Topeka on January 7. He discussed "Hypersensitiveness and Immunity to Tuberculosis".

The Sumner County Medical Society held a meeting, preceded by dinner, on December 20 in Wellington. Dr. W. H. Neel, Wellington, was elected president; Dr. E. F. Clark, Belle Plaine, vice-president; Dr. Emery Trezell, secretary-treasurer; Dr. J. A. Howell, censor and delegate to the state meeting. Speakers on the program were Dr. R. C. Melbhenny, Conway Springs, who talked on "Auricular Fibrillation Complicated with Cerebral and Pulmonary Emboli", and Dr. Emery Trezell, who spoke on "Tetanus Diagnosis and Treatment".

At a meeting of the Washington County Medical Society in Washington on January 8, Dr. L. J. L'Ecuyer, Greenleaf, spoke on "Vitamins" and Dr. Z. H. Snyder, Greenleaf, spoke on "Diets". Indigent care was discussed and the society decided to take the matter before the county commissioners to work out a plan for the care of these people.

Dr. C. H. Kinnaman, epidemiologist, State Board of Health, Topeka, was the guest speaker at the regular meeting of the Wilson County Medical Society on January 7, in Fredonia. Dr. F. M. Wiley, Fredonia, read a tribute to the late Dr. John L. Morehead, Neodesha, a former member of the society.

The installation of the officers of the Wyandotte County Medical Society was held at the Fortieth Annual Dinner dance of the society on January 15, in Kansas City at Lake Quivira clubhouse. The following officers were installed: Dr. H. L. Regier, Kansas City, president; Dr. G. H. Hobson, Kansas City, vice-president; Dr. Lewis

W. Angle, Kansas City, secretary; Dr. Thomas Richmond, Kansas City, treasurer. Mr. Tom Collins, Sunday editor of the Kansas City Journal-Post, was the guest speaker and gave a humorous talk on "Care and Treatment of Husbands and Wives". On January 16 the program consisted of talks by Dr. W. W. Abrams, Kansas City; Dr. E. S. Miller, Kansas City; Dr. J. W. Faust, and Dr. J. H. Rabin, Kansas City. The next meeting was held on January 23 and the speakers for the program were Dr. H. W. King, Kansas City, and Dr. J. H. Ogilvie, Kansas City, Mo.

The Cowley County Medical Society held its annual dinner meeting January 17 in Winfield. The following officers were elected for 1935: Dr. R. L. Ferguson, Arkansas City, president; Dr. Howard Snyder, Jr., Winfield, vice-president; Dr. Delbert A. Ward, Arkansas City, secretary-treasurer. The program included addresses made by Dr. Charles Moran, Arkansas City; Dr. H. L. Snyder and Dr. C. C. Hawke, of Winfield.

KANSAS MEDICAL AUXILIARY

The members of the Sedgwick County Auxiliary entertained the state president, Mrs. William Gordon Emery, of Hiawatha, with a dinner party in Wichita at their January meeting. Mrs. G. A. Spray, president of the Sedgwick auxiliary, introduced Mrs. Emery who gave a short talk. Mrs. C. N. Johnson reported on a Hygeia magazine project in connection with the rural schools and mother's study clubs in Wichita. A review of "The Biography of Richard Wagner" was given by Mrs. Myra B. Brooks, of Wichita.

The Wilson County Auxiliary held a meeting on January 7 in Neodesha, preceded by a banquet with the physicians. Mrs. B. P. Smith, of Neodesha, read a paper on "Health Work" and a general discussion followed.

ANNOUNCEMENTS

The American Medical Association has arranged for a series of broadcasts over various networks starting in January. Physicians are requested to bring these broadcasts to the attention of their patients, and inform them that copies of the talks may be had in booklet form upon request. A talk by Dr. W. W. Bauer, on "Heart Valves" will be given on a western network of the Columbia Broadcasting System, February 14, on the Educational Forum from 4:30 to 4:45 p. m., central standard time. Through courtesy of the National Broadcasting Company a program including music and three speakers will be heard at 6:00 p. m., central standard time, on February 18. Speakers and their topics are as follows: "Advancement of Medical Education", Dr. Walter A. Bierring; "The Prolongation of Life", Dr. Ray Lyman Wilbur; and "The Battle Against Tuberculosis", Dr. Kendall Emerson.

The American Congress of Physical Therapy announces a one-day session of its Mid-Western Section, to be held in Madison, Wis., March 12, 1935. The morning session will be devoted to hospital clinics and the afternoon session to scientific papers. The evening program will be conducted under the auspices of the section and the Dane County Medical Society.



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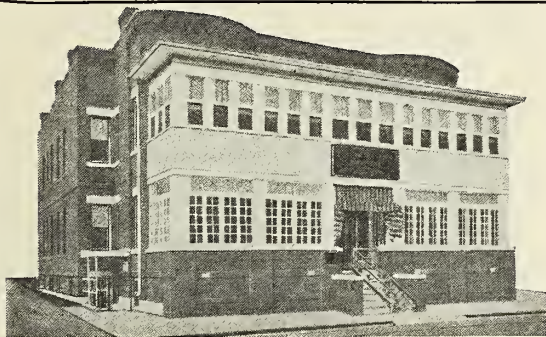
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A REMINISCENCE OF PIONEER MEDICINE

E. E. Morrison, M.D.

Great Bend, Kansas

In the early eighties a doctor seeking fame and fortune in the new west, located in a small town in Barton County, Kansas. This man of medicine brought with him the reputation of an "army surgeon". He had served his country in that capacity during the Civil War.

It was related of him by contemporaries who had seen him do minor surgery, that when it became necessary during the course of an operation to cease cutting while controlling hemorrhage, he held his knife between his teeth.

The writer gave little credence to the story until he was told of another "army surgeon" in a town at some distance, who used the same technique. At about the same time he read "Reminiscences of the Civil War", written by Carl Schurz and published in Scribners. Carl Schurz gave a vivid description of the care of the wounded after a certain great battle. He noted that the surgeons held their knives between their teeth when their hands were otherwise occupied.

One day the "army surgeon" walked into a colleague's office with all the enthusiasm of a man of science who has discovered something hitherto unknown. He carried in his hand a specimen.

He said: "You know ————— has been deathly sick for about three months. Two or three weeks ago he began to develop an enormous boil on his belly. This morning I made a free incision where it was pointing. I have never seen so much pus come out of anything and I have never smelled anything so bad. This specimen floated out in the pus. What is it?"

The specimen had the appearance of a defunct shrimp. The colleague only a few years out of the dissecting room recognized a self amputated appendix vermiformis.

BASIC SCIENCE PROPOSAL

A basic science act, patterned after the Minnesota law, was introduced into the Senate on January 10, by Senator Henry Diefendorf of Riley.

It contains provision for an examining board composed of one physician, one osteopath, one chiropractor, and two college professors to administer a preliminary examination to entrants into the healing field in anatomy, physiology, bacteriology, pathology, hygiene, and chemistry. Christian Scientists, optometrists, dentists, chiropodists and several other groups are excepted inasmuch as it is aimed at healers who are chiefly relied upon.

The bill was referred to the Senate committee on Temperance and Public Health, of which members are Walter Jones, Hutchinson; M. A. Bender, Holton; J. B. Carter, M.D.; Wilson; Thale Skovgard, Greenleaf; Charles Krouse, Onaga; and Claud Hansen, Jamestown. A hearing before the committee was held on January 24 at which meeting Bishop James Wise of the Episcopal Church, Rev. John Lander of the Kansas Hospital Association, Mr. James Malone representing Catholic Hospitals, Dr. C. L. Miller of the State Board of Health, Mr. William Drennan of the Kansas City Chamber of Commerce, Mr. W. M. Newmark of the Kansas Pharmaceutical Association, Dr. C. C. Nesselrode and Dr. E. C. Duncan appeared in favor of the bill. Only three chiropractors appeared as opponents.

The bill is still in committee as we go to press, and vote upon same is expected during the week of February 10. Full details of action taken by the Society has been forwarded to county secretaries for presentation at meetings.

MEDICAL SCHOOL

The Porter Scholarship was awarded Mr. Lee H. Leger, a senior, ranking highest scholastically.

Dr. E. A. Doisy, Professor of Biochemistry, St. Louis University School of Medicine, St. Louis, Missouri, will give the Porter lectures on April 23 and 24 at the University of Kansas Hospital and the University of Kansas at Lawrence. His subject will be "Sex Hormones".

The Wisconsin Surgical Club will be the guest of Kansas City surgeons February 4, 5 and 6. They will spend February 4 at the University of Kansas Hospital, at Lawrence, and February 5 and 6 at the hospitals of Kansas City, Missouri.

A new major operating room has just been completed at the University of Kansas Hospital. There are now available three major operating rooms.

Senator H. M. Beckett, Olathe, Kansas, has introduced a bill to the Legislature for \$75,000 for a negro ward at the University of Kansas Hospital and \$10,000 for a warehouse. The Board of Regents has recommended \$200,000 for a negro ward and also a clinic building to take the place of the present wooden barracks buildings.

The Mid-Western Section of the American College of Surgeons is meeting in conjunction with the Kansas City Southwest Clinical Society on March 11, 12, and 13 at the President Hotel, Kansas City, Missouri. Surgical clinics will be given at the University of Kansas Hospital on March 12 and 13 for the guests of this meeting.

The Kansas City Society of Ophthalmologists and Otorhinolaryngologists held their meeting at the University of Kansas Hospital on January 17. Surgical clinics were given by members of the medical school faculty.

EXCHANGES

Charles W. Mixer, self-styled cancer specialist of Hastings, Mich., is dead of cancer on the eve of his prosecution on charges of violating the Federal food and drugs act. His principal medicine "Mixer's Cancer and Scrofula Syrup", composed of potassium iodide, senna, licorice, yellow dock root, sarsaparilla, wintergreen, glycerine, alcohol and sugar syrup, had for a long time evaded the Federal law, until Food and Drug Inspectors intercepted a shipment to Chicago, in July, 1932, and based the recent case on it. This step was necessary, as the Federal government can bring cases under the Food and Drug Act against interstate shipments only.

Even during Mixer's illness, his office force continued to sell and ship the so-called "cancer cure", which fact led the Government to request that the trial proceed without delay, in spite of the defense attorney's plea that the defendant was seriously ill and could not stand trial. Mixer's death has now blocked the suit, which will necessarily be dismissed.

Reputable physicians are unanimously of the opinion that there is no medicinal cure for cancer. The manufacturer employed a physician to care for his own cancer. By correspondence he "diagnosed" his unseen patients,

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THE ROBINSON CLINIC

Neurosis is an all-inclusive term applied to functional conditions and, many times, to cases where the diagnosis of organic pathology is obscure.

When the preliminary examination of any patient does not reveal a diagnosis, the case is usually classified as neurosis. Further tests are done and, when there is a dearth of objective findings, the case is finally called neurosis.

We feel that the diagnosis must be made as any other disease entity, not by the absence of objective symptoms, but by the subjective symptoms presented. Thus will fewer mistakes be made.

The neurotic patient presents several constant symptoms. Firstly, and most important, is a great willingness—nay anxiousness—to discuss their symptoms. They go into great detail and try not to forget any detail. Secondly, they all are nervous and weak and most cases suffer from insomnia. Thirdly, there is always some break in their chain of symptoms or events which is illogical, so that the doctor feels the case is a little unusual or organically impossible.

Of course a neurosis may manifest itself in any organ and any symptoms may be complained of, but the most common are headache—usually midline—shortness of breath and tachycardia, indigestion and constipation. There may, of course, be many others in the several patients or in one individual.



Airplane View

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Assoc. Medical Director

**Drug and
Alcohol
Addiction**

frequently without even a statement from them of their condition or symptoms, and, when they finally ordered some of his preparations, he sent them something else selling for slightly less, carefully explaining that his experience had shown it would be better to take this other medicine until the system became accustomed to the treatment. This procedure left a so-called "credit" which was not enough for additional treatment, but which Mixer used as an inducement to the patient to purchase more on the payment of a little more money. In this manner, he dealt mostly with poverty-stricken people unable to afford hospital care or a physician's attention.

In his lengthy correspondence with each patient, there usually occurred periods when the spirits of the patient rose above the gloom of discouragement ordinarily filling the letters, and Mixer used these cheerful and optimistic letters as testimonials of the worth of his "remedies", carefully suppressing the others.—United States Department of Agriculture Bulletin.

In response to an inquiry, Mr. Albert Stump, attorney for the Indiana State Medical Association, has written the following:

"It has been held in a number of cases that where a physician undertakes to treat a charity patient his responsibility to the patient for any failure to use proper care and skill is on exactly the same basis as it would be for a paying patient. That may seem a bit harsh, but on further consideration, it will be seen that it is a just principle of law.

"When a physician undertakes to treat a person, he implicitly brings to the treatment of that person the obligation to use proper skill and care and not to neglect the patient to his damage, whether the patient is able to pay or not. But, on the other hand, he does not have to accept any patient. There are no conditions apparently, from the decisions of the courts, under which a physician can be compelled to accept a patient. However, when he does accept a patient, his obligation to that patient is not then dependent upon whether it is a paying patient or not.—Jrl. Ind. Med. Assoc.

The question "why an auxiliary" is not infrequently asked. The question "why a wife" constitutes as good an answer as any.

Medical organization went on for nearly a century in a state of single blessedness. Like an old bachelor it never seemed to realize that it was doing many odd jobs which

could be done by a helpmate and that its standing in the community was being sorely neglected. Then one spring morning some ten years ago came a comely miss, who announced herself as Mrs. Auxiliary, rolled up her sleeves, nudged Mr. Medicine in the side, and said "shove over—I'm going to pitch in, help get your house in order, and I'm going to be your partner."

The old fellow, unaccustomed to team work, grumbled and still sputters at times, but down in his heart realizes how efficient she has been. During the years she has grown and developed into a buxom housewife, on whom he has learned to depend more and more. She has been helpful in more ways than he realizes and she can do more and more for him as times goes on and he learns more to rely on her. Her main job is to improve his standing in the community. He has been a hermit and has covered up his sterling qualities and his good deeds. He has had few contacts with others and she can do much in bringing about a better appreciation of his work and of his worth.—(R. S., in Wisconsin Med. Jour.)

In compiling the current issue of the American Medical Directory, some interesting notes were collected relative to physicians of advanced age, many of whom are still in practice. The names of ten doctors were collected who were born between 1828 and 1838, so that the oldest of these men is 106 years of age and the youngest 96. They graduated in medicine from the years 1852 to 1878. Of the four men who are still in practice, the years of practice vary from eighty-one to sixty-nine. These are, of course, remarkable. It is significant that by far the majority of these men of advanced years live in small communities. The Journal is interested in receiving records of physicians who are more than 95 years of age.—Jour. A.M.A.

CLASSIFIED ADVERTISEMENTS

FOR SALE: A Victor x-ray, ten-inch capacity, fluoroscopic table, vertical fluoroscope, stereoscope, tubes and other equipment. Address Dr. C. W. Lawrence, Emporia, Kansas.

FOR SALE: Complete equipment for Eye, Ear, Nose and Throat work, including instruments, cabinets, records of eye prescriptions, desk, etc. The property of the late Dr. Charles M. Brown. Address inquiries to Mrs. C. M. Brown, 430 Brotherhood Building, Kansas City, Kansas. Telephone—Drexel 2611.

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THE JOURNAL

of the

Kansas Medical Society

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No. 3

BACKACHE: A SYMPTOM

PAUL B. MAGNUSON, M.D.

Chicago, Illinois

From time immemorial, it seems to me, we have been talking about backache as a disease, an entity, something to treat, instead of regarding backache as only a symptom, sometimes only a very small portion of a complete picture which can be ascertained only by the history and in the physical examination. It is true that backache is a very frequent symptom, and undoubtedly a very irritating one to the patient, and to evaluate this symptom in the whole picture of the condition which causes it, a most complete and detailed history of the complaint is of first importance. If one were to enumerate all the conditions in which backache is a symptom or could be a symptom, the list would take many pages. We know that in acute infectious diseases backache is one of the symptoms of which the patient complains most, whereas from the standpoint of the doctor, where the disease is fully developed, it is not of major importance, because he knows that the backache will clear up when the condition which is causing it has been removed. But where there is no well-developed disease and the complaint which brings the patient to the doctor is backache, the fact that this is only part of the picture may escape attention entirely.

Our first impulse, when such a patient comes to us, is to have an x-ray made. In my experience this is the least valuable diagnostic aid, in this particular condition. Certainly one would not expect to find any x-ray evidence of well-developed bone or joint disease in the backache of scarlet fever or dengue fever, and yet the pain is intense. On the other hand, in the patient who complains of backache, whose x-ray shows a lipping, irregularity and roughness of the joints, with some thinning out of cartilage, the diagnosis of arthritis is frequently made in spite of the fact that backache has appeared only recently. It is often very evident in the x-ray that the condition shown thereby

has been present for many months, possibly years, and yet the patient has been going along his usual course of existence without difficulty. The spurs, lipping, and moderate thinning out of cartilage, therefore, cannot be the cause of the backache or the patient would have had it during the course of their development. A man may receive a very slight injury, or may simply stoop and lift a light weight, and have a sudden pain in his back as a result. The x-ray shows an osteo-arthritis, but this osteo-arthritis did not develop overnight. What has happened, then, to cause this sudden pain in the back which the patient did not have prior to the time he made a slight effort which he had made hundreds of times before while the condition in his back was developing? The answer is simple. The osteo-arthritis of itself does not cause the disability, but the factors which have caused the osteo-arthritis have undermined the integrity of the ligaments which support the vertebrae, particularly in the lower spine, and they have become thickened, inelastic and hard, due to the wear and tear of life and probably also to a long-continued chronic toxemia. This has not caused any actual disease, but through chemical irritation has caused a weakening of the weight-sustaining properties in the ligaments and has caused an inelasticity which does not permit of free movement in all directions. Therefore, a sudden slight strain thrown upon one group of ligaments may easily injure those ligaments and cause pain on certain motions.

When I speak of toxemia, this does not necessarily mean intestinal toxemia, although this may be a part of the picture. I mean the toxemias which are chemical. They may come from the effects of bacteria on the nitrogenous tissues of the body, which are absorbed over a long period of time; they may come from intestinal stasis, chronic incomplete elimination (although the patient may have a regular bowel movement every day, that bowel movement may be twenty-four hours late each day without the patient's knowledge); they may come from the patient's inherent inability to handle certain types of food. Pemberton has

called attention to the fact that some patients with arthritis improve when placed on a low carbohydrate diet, but in my experience the only type of arthritic patient who improves on a low carbohydrate diet is the over-fat, over-nourished individual. It has been my experience that the larger percentage of patients with a chronic low grade arthritis are over-supplied with nitrogenous foods. If we look back over our experience I think we will all agree that fully eighty per cent of people who come to us with chronic pain in the back are beyond forty years of age. The patient may have a slight curvature, may be thrown off balance by one leg being shorter than the other, or may have other symptoms of poor posture. He may have gained weight, or may have changed occupation so that he is putting more strain on the lower back, or he may have had some slight injury or slight over-exertion which normally he would not have noticed.

Why do these disabilities occur in individuals of this type, and why do they remain as a source of annoyance and partial incapacity for months and months? I believe the answer is the same that can be given for disabilities in other joints in this type of patient, following injury. If he sustains a broken bone, the joints above and below the fracture are immobilized, and although the fracture unites and the x-ray shows perfect alinement and re-position, the disability remains, not at the point of fracture but in the joints above and below the fracture, which have been immobilized, in which the circulation has been decreased and the activity has been limited; because of thickening of the ligaments, free mobility and comfort does not return except after a long period of treatment.

The physical make up of the patient seems to give little clue as to the cause. Using gout as an example, we have always felt that the gouty patient was a fat, florid-faced elderly person of the wine-drinking, beef-eating type, who took very little exercise. But I have seen well-developed cases of gout in patients between eighteen and thirty years of age, who were engaged in active athletics; one a polo player of twenty-three; another a long-distance swimmer of eighteen; and another a young giant of twenty-one who played on the first team of a well-known middle west university. These boys all had an idiosyncrasy of some sort to an overdose of protein food, and their symptoms cleared up, including a lowering of blood

uric acid content, when a diet which was balanced for their individual consumption was found. I believe we are all too prone to look for an actual disease in almost any patient, forgetting that there is an intermediate point between true health and well-developed disease, at which point there are mild symptoms, or sometimes severe symptoms, without there being all the symptoms of any particular condition.

I have seen many cases of chronic backache and mildly incapacitating pains in the joints clear up on lowering the nitrogenous intake and increasing the waste output of the body. It may be argued that the patient might have recovered had only the waste output been increased. That is probably true, temporarily, but the condition would have recurred had not the nitrogenous intake been kept at the balance point. We are coming to realize more and more in the rational practice of our profession, that every patient is a law unto himself so far as treatment is concerned, not only as to food but as to exercise, amount of sleep, and all that pertains to the maintenance of life and health. I often ask my students, "Which of us has a normal face?" and follow this with, "Which of us has a normal chemistry?" The old adage, "What is one man's meat is another's poison," still holds true, and we are just beginning to find out that one man's poison has to be sought for in the individual case. There are normals, true, but they have often very broad limits and in some cases very narrow limits, and when the digression from normal occurs in a person whose limit of normal is narrow, it throws the whole organism off balance and can cause many symptoms which cannot be explained on cursory examination, or through a history taken by someone who does not have in mind constantly the possible significance of an apparently minor symptom. The examination of the back in a case of backache is not enough. The detailed history and complete physical examination will often disclose the cause of the backache, where the examination of the back alone will leave one in the dark.

Sara M. Jordan and Everett D. Kiefer, (J.A.M.A., Dec. 29, 1934), state that obstruction, hemorrhage and intolerance to alkalis are complications that influence prognosis in the medical management of duodenal ulcer. Obstruction of all degrees in the group of seventy-nine cases that they studied was relieved in 89 per cent by medical management. It recurred later in 13 per cent. Obstruction, hemorrhage and intolerance to alkalis were all unfavorable factors in the medical management of the disease. Single hemorrhage had the least effect on prognosis.

mm. length embryo. Then it begins to shift downward with progressive elongation of the oesophagus so that by the time the diaphragm closes in the 18-20 mm. length embryo the stomach lies entirely below it. Any portion of the stomach that may have failed to reach its normal position at this time will be above the diaphragm. Very rarely the entire stomach remains above the diaphragm, the condition being known as thoracic stomach. More commonly there is a partial descent of the stomach resulting in a hiatus hernia with a congenitally short oesophagus. This condition is relatively rare compared to the usual type of hiatus hernia but should be differentiated as operative repair is impossible because of the short oesophagus. The usual type of hiatus hernia is that in which the oesophagus is of normal length. Commonly in these cases the oesophageal orifice remains at its normal position almost one inch below the diaphragm and a portion of the fundus of the stomach herniates upward through the enlarged hiatus between the oesophagus and the enlarged ring. This type of hernia occurs more frequently after forty years of age and more frequently in women. In some cases the oesophagus orifice and a portion of the fundus move upward together through the enlarged ring in which case the oesophagus appears long and redundant. Nearly always only the stomach is involved in a hiatus hernia, although rarely the colon or small intestine may be involved.

SYMPTOMS

Any type of diaphragmatic hernia may remain symptomless or may cause a wide variety of symptoms, some of which are thoracic in character and some abdominal, the latter depending largely upon the organs involved in the hernia. Since only the stomach is involved in hiatus hernia the abdominal symptoms in these cases are largely gastric. The symptoms are so varied in different cases that a large number of other conditions may be simulated leading to mistaken diagnoses depending largely on the character of the pain or distress present.

The most common symptom is pain or distress which is usually centralized in the lower substernal or upper epigastric regions. Though often dull, it is occasionally of such severity that hypodermics of morphine are required for relief. These severe attacks of pain frequently radiating through to the back are often mistaken for gall-bladder attacks.

The pain may radiate over the precordium

and up towards the left shoulder and may be associated with palpitation, dyspnea, cyanosis, and a sense of impending disaster. This syndrome easily leads to the mistaken diagnosis of angina pectoris, coronary occlusion, or some other cardiac condition.

In other cases there is a long continued intermittent history of a burning distress over a number of years which is easily mistaken for peptic ulcer. When to these symptoms recurrent attacks of gastro-intestinal bleeding are added the diagnosis of peptic ulcer with hemorrhage is still more likely to be made. This bleeding may be gross or occult bleeding, probably depending on obstructed venous circulation in the herniated portion. This condition has been carefully studied by Boch, Dulin, and Brooke.⁹

In another group of cases along with the distress there is some difficulty in swallowing, which may be temporarily relieved by vomiting up mucus. These symptoms lead the way to a mistaken diagnosis of a primary oesophageal lesion, such as cardiospasm, carcinoma of the lower oesophagus, or oesophageal ulcer.

The changed physical and x-ray findings in the chest may easily lead to the mistaken diagnosis of a pleural effusion, thickened pleura, or hydropneumothorax. A study of the symptoms in these cases forces the conclusion that the clinical picture may somewhat closely resemble that of a number of conditions as above mentioned, but usually the picture will not ring true in all details. When this occurs there should always develop the clinical suspicion of the possibility of a hiatus hernia, and the final diagnosis of the condition must depend upon a careful x-ray examination.

ROENTGENOGRAPHY

The x-ray diagnosis consists essentially of fluoroscopic and plate examination both before and after a barium meal. However, unless special precautions are taken a hiatus hernia may easily be overlooked in an x-ray examination. The two essentials to prevent this are first of all delay in the fluoroscopic examination until the examiner's eyes are thoroughly adjusted to the dark. There are a number of superimposed shadows in the hiatus region and a degree of vision adequate for examination of the rest of the stomach may fail to be sufficient to see the details with enough accuracy in the hiatus region. The second requirement is thorough examination of the patient in the horizontal position, both prone and recumbent, aided by eleva-

tion of the hips and manual abdominal pressure. All too frequently a barium shadow in a hernia has been passed over without sufficient study as barium regurgitated into the oesophagus. It must always be remembered that in the standing position the hiatus hernia is often spontaneously reduced, and even if not reduced may not fill with the barium solution even under strong manual pressure.

Other conditions in this region which must be differentiated in the x-ray examination are cardio-spasm, carcinoma of the lower oesophagus, oesophageal ulcer, diverticulum of the lower oesophagus, gastric diverticulum, cardio-oesophageal relaxation, hour glass stomach, subdiaphragmatic abscess, pleural thickening, pleural effusion, hydropneumothorax, thoracic stomach, and eventration of the diaphragm. The x-ray findings have been well discussed by Morrison, Morrison, and Delaney¹⁰ and by Moore and Kirklin.¹¹

TREATMENT

Hiatus hernia may be cured only by surgical repair of the enlarged ring. However, this region is somewhat difficult of access, closure may not be possible, and recurrences are frequent after operative repair. In those cases presenting severe enough symptoms an attempt at surgical repair is justified, but should be undertaken only by a thoroughly experienced surgeon. However, because of the difficulty of access, the impossibility of closure in some cases and the frequency of recurrence after repair, the indications for operation should be more exacting and more urgent in hiatus hernia than in other types of diaphragmatic hernia. There is a difference of opinion among surgeons in this field as to the relative merits of the thoracic versus the abdominal approach for the repair.¹²

A great many of these hiatus hernias occur in middle aged or older individuals, are often present many years before the correct diagnosis is made, and most of these patients will get along fairly satisfactorily under palliative medical measures such as avoidance of physical straining, which increases intra-abdominal pressure, and avoidance of obesity. A soft diet and alkaline powders at times of greater distress often greatly alleviate the symptoms. Some of these patients avoid distress at night by using two or three pillows to elevate the head and chest.

In conclusion it may be said that hiatus hernia is a not infrequent condition which must

be thought of in all patients presenting lower thoracic or upper abdominal symptoms. Thinking of the possibility of this condition followed by a proper x-ray search will prevent overlooking the true cause of the symptoms and consequent errors in diagnosis and treatment. The chief failure in diagnosis is the failure to look for the condition.

CASE REPORTS

The following three case reports with cuts will illustrate some of the practical points associated with the symptoms, diagnosis, and treatment of diaphragmatic hernias:

Case I. Mrs. R.B.C., age 57 years, housewife, mother of four children. At thirty-five years of age the patient began to have attacks of rather sharp epigastric pain occurring at irregular intervals, perhaps several times yearly, of moderate severity, only once associated with nausea and vomiting. During these years the diagnosis was gall-bladder disease. At forty-five years of age these more acute attacks had subsided but the patient was having irregular periods of a burning epigastric distress considered at that time to be probably chronic gastritis, with the possibility of a peptic ulcer. At fifty-five years of age the patient began to complain of attacks of lower substernal pain always occurring while eating, associated with a choking smothering sensation. After several months these attacks became more severe associated with a feeling that the patient was choking; that she could not get her breath; and of impending disaster, always coming at meal time and only relieved by inducing vomiting, which usually brought up only mucous material. These symptoms were such as to lead the patient and her family toward the belief that these were heart attacks. The vomiting up of definite quantities of mucus might also have led clinically to a suspicion of a primary oesophageal disease. Complete clinical laboratory and x-ray examinations were essentially negative except for a moderate sized oesophageal hiatus hernia. The oesophagus was slightly dilated, the oesophageal orifice was in normal position, and a portion of the fundus was herniated through the oesophageal orifice. (Figure 2.)

This case well illustrates the ease with which a mistake in diagnosis may be made. At some time or other in the course of this patient's history the following diagnosis had been made or considered: gall-bladder disease; chronic gastritis; peptic ulcer; organic heart disease; a pri-

mary oesophageal disease. As usual in these cases, the final diagnosis depended upon proper x-ray examination. The essential treatment in this case consists of soft foods and alkaline powders during periods of distress and moderate weight reduction. After having the condition for over twenty years the amount of discomfort does not and probably will not warrant any attempt at surgical treatment and in general the patient gets along quite satisfactorily under palliative measures.



Fig. 2. Case I. Hiatus hernia partially filled with barium.

*Case II. Mr. C.D., age seventy-one, retired fireman. For three years this patient had complained of increasing cardiac palpitation and shortness of breath. Complete examination was essentially negative except for a very large oesophageal hiatus hernia. In the x-ray examination the oesophagus was seen to be considerably dilated, the oesophageal orifice was in normal position, and a large amount of the stomach was herniated through the oesophageal hiatus. (Figures 3 and 4.) In this case it would be natural from the history to suspect a primary myocardial weakness but the entire picture suggests that the circulatory embarrassment is due to the large hernia protruding into the thorax rather than to organic heart disease. This hernia is large enough and producing enough symptoms to justify an attempt at surgical repair in a young individual, but at the

patient's age it was evident that no surgical repair was justified.

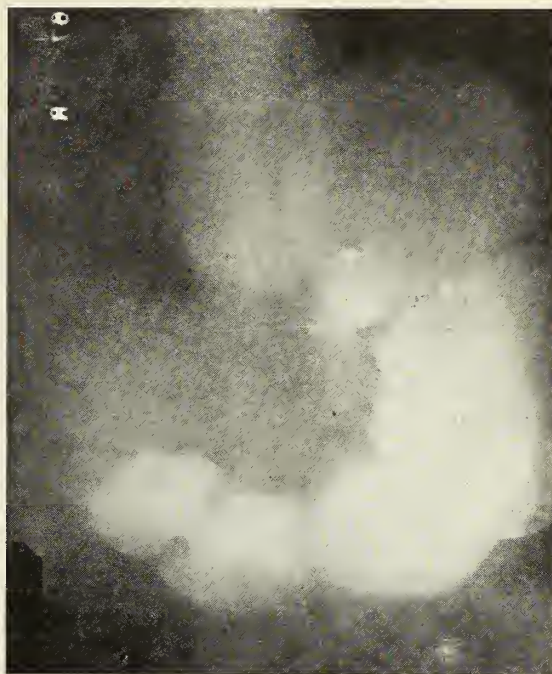


Fig. 3. Case II. Large hiatus hernia before barium meal.

*Case III. Mr. R.E.B., age twenty-seven. Insurance work. This patient was entirely well until three and one-half months before coming for examination, at which time he was in an auto accident and was bruised and in a hospital five days. After this he returned to work and

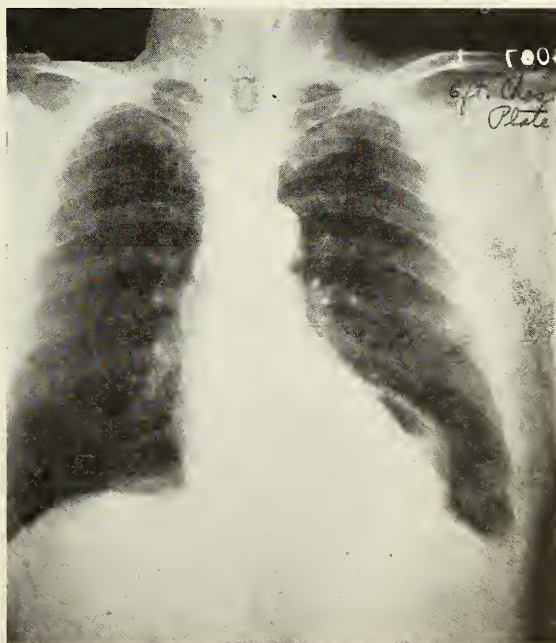


Fig. 4. Case II. Large hiatus hernia after barium meal.

got along fairly well for two months when he developed an attack of cramping abdominal pain with some abdominal distention for one or two days. Following this he began to complain of rather persistent abdominal symptoms consisting of mid- and upper abdominal cramping pain and vomiting more or less each day, although no loss of weight occurred. Complete examination was essentially negative except for a large left lateral diaphragmatic hernia, the contents of which consisted of the middle two-thirds of the stomach and a large loop of the transverse colon. (Figures 5 and 6.) Because of the suitable age of the patient and the severity of the symptoms operative repair was strongly indicated. Under a general anesthetic an abdominal approach was made.† Because of the negative intra thoracic pressure the hernial contents could not be reduced until a piece of hollow rubber tube was slipped along side of the hernial contents into the thorax to permit the entrance of air into the thorax, after which the middle two-thirds of the stomach and a large loop of the transverse colon were easily brought back into the abdominal cavity. The margins of the hernial ring were brought together and sutured and the abdomen closed. The patient left the operating room in good condition at 10:00 a.m., but late in the afternoon a markedly unfavorable change developed in his condition, with marked cyanosis, rapid respiration, and a

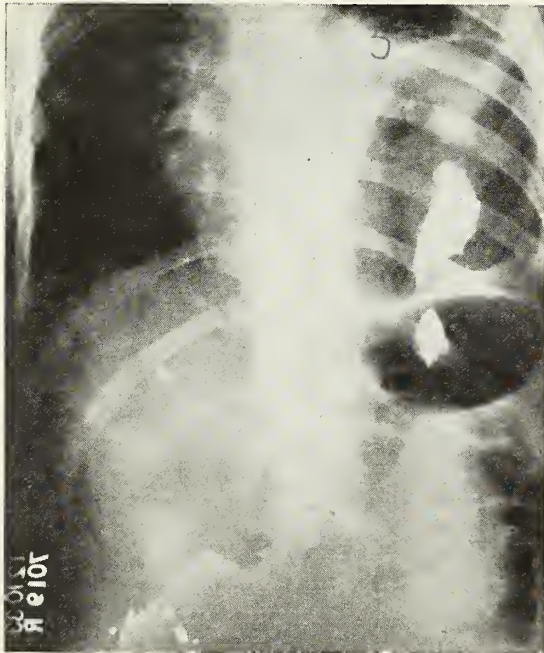


Fig. 5. Case III. Large lateral diaphragmatic hernia.

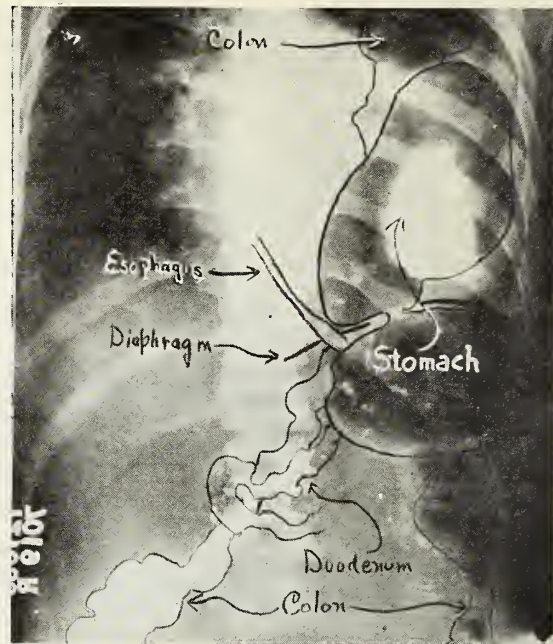


Fig. 6. Case III. Interpretation of the x-ray shadows shown in Fig. 5 as determined by a barium meal and a barium enema.

very weak and thready pulse; and the patient became rapidly worse so that grave danger was felt about his condition. Feeling that there was no ordinary cause in the procedure to warrant this unusual reaction it was decided that the rapidly increasing circulatory failure was due to the artificial pneumothorax necessarily occurring when the chest was opened. On this assumption a needle was introduced into the left side of the chest and 400 or 500 cc. of air removed by suction from the pleural cavity. With this procedure and the administration of oxygen the patient began to improve immediately and made an uneventful convalescence. Later x-ray examination revealed a normal position of the stomach and colon and normal function of the left diaphragm. This case forcefully demonstrated the desirability of the aspiration of some of the air from the chest cavity after operation for diaphragmatic hernia, as advocated by several surgeons operating in this field.

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*Seen and reported through the courtesy of Dr. Fred McEwen.

†Operation by Dr. E. S. Edgerton.

‡Consult for further bibliography.

BREAST TUMORS*

BARRETT A. NELSON, M.D.

Manhattan, Kansas

Twenty-five years ago ninety per cent of the women presenting themselves for examination of a lump in the breast were found to have malignant lesions. Today one-third of these patients are found to have no definable tumor at all, and of the remaining two-thirds, approximately one-half will prove to be benign growths and approximately one-half will be malignant. This remarkable change is, of course, due to widespread efforts at education and propaganda resulting in the general knowledge that any lump in the breast is potentially a cancer.

The next educational step should be the successful dissemination of the knowledge that the vital point is early examination by a competent physician and that there is a high probability of cure with early treatment of cancer of the breast, and that that probability of cure very rapidly diminishes. The ideal time for treatment of malignancy of the breast is within one month from the appearance of the nodule. In that length of time there should be no metastasis to the axillary or intrathoracic nodes and the chances of five year cure are from seventy to eighty per cent. Once lymphatic extension has occurred, the cures fall sharply to ten to twenty per cent.

The treatment of the malignant tumor of the breast is open to no argument. Radical removal including underlying muscles, a portion of the anterior rectal sheath and the axillary nodes is indisputably the only proper procedure. The patient with a benign lesion, however, should not be subjected to such a mutilating operation. As a rule, there should be no

more than local excision; and, with proper clinical diagnosis, many patients may be safely informed that surgery is not indicated at all.

CLASSIFICATION

For clinical use the simple classification of Bevan is helpful in considering the common breast tumors. He groups them as follows:

- | | |
|--------------|-------------------------|
| | 1. Fibro-adenoma. |
| A. Benign | 2. Papillomatous cyst. |
| | 3. Fibrocystic disease. |
| B. Malignant | 1. Sarcoma. |
| | 2. Carcinoma. |

The fibro-adenoma constitutes about twenty-eight per cent of the benign tumors and is usually easily recognized. It is discrete, firm, encapsulated, freely movable, and lobulated, though the last is not always palpable. It may be single or multiple. It may be difficult to distinguish it from a duct cancer which is not adherent to the skin, but the latter is usually rounded, not lobulated, may have a history of blood or serum from the nipple, and in the later stages may show adherence to the skin or axillary involvement. The fibro-adenoma should always be removed to establish the diagnosis. There should be no recurrence though other fibro-adenomata may appear later and the breast from which a proven fibro-adenoma has been removed need not be re-operated when similar nodules appear subsequently.

The papillomatous cyst (about six per cent of the benign group) is the tumor responsible for most occurrences of bloody or serous discharge from the nipple. It is a benign tumor, but may become malignant and should always be thoroughly removed.

Approximately seventy per cent of the benign growths may be classed under fibrocystic disease. Of these the most common is chronic cystic mastitis (about fifty-six per cent of all benign tumors) characterized by multiple small to larger cysts, diffusely scattered throughout the breasts. This is, correctly speaking, probably not neoplastic, but rather a process due to involutional changes in which fibrous tissue and retention cysts are formed, due to ovarian hormones. It is neither cancerous nor precancerous. Under thirty years of age, a waiting policy is adopted. Over thirty, a nodule had best be removed for positive diagnosis.

The single cyst, such as the "blue-domed cyst" should always be removed for examination. In the patient over twenty years of age, every breast containing a single tumor should

*Read before the Golden Belt Medical Society at Abilene, Kansas, January 10, 1935.

be treated by local excision for positive diagnosis. Bloodgood states he has never seen an authentic case of breast cancer in a woman under twenty-five years of age but to be on the safe side suggests reducing the limit to twenty years. (Recently a proven case of carcinoma of the breast in a patient of twenty-two has come to my attention.)

The galactoceles are usually associated with a lactating breast and rarely offers a difficult diagnostic problem.

Of the malignant tumors, sarcomata are relatively infrequent comprising only one or two per cent. A definite diagnosis can only be made by the microscope and in early stages they may simulate benign tumors.

The carcinoma in its various types offers the outstanding clinical problem. It is most commonly seen as the single, firm, "frozen-in" tumor which may or may not be adherent to skin or underlying muscle, may or may not be associated with retraction of the nipple, and is not necessarily accompanied by axillary node involvement. Some will be found to be soft or cystic or occasionally the site of mucoid degeneration. Diffuse carcinoma may present no palpable tumor but only a wide involvement with enlargement and edema of the skin producing the so-called "pig-skin saddle" appearance. The prognosis in this type is uniformly bad.

Paget's disease requires special mention. There has been a long-continued argument as to whether the eczema produced the carcinoma or the carcinoma the eczema. Probably the latter is correct. In any event, every eczematoid lesion of the nipple should be suspected of malignancy. If there be any underlying induration or palpable nodule in the breast the radical operation should be done at once. If there be any warty nipple with scaling, discharge, or ulceration, any irritation with a raw surface or weeping, any eczematoid or ulcerative lesion of the nipple which has not healed with ordinary cleanliness and protection, the radical procedure is indicated.

Tuberculous nodules, very infrequently seen, may occasionally prove confusing, but their character is usually easily recognized. Many of them easily break down and form sinuses to the skin.

EVALUATION OF SYMPTOMS

Of the symptoms presented by patients with definite or suspected breast tumor, pain is probably of the least significance. It is of no diagnostic value. If it be the only symptom and no

mass is demonstrable, the only treatment is placid reassurance.

Discharge from the nipple, once thought indicative of malignancy, is probably also of slight importance in itself. If bloody or serous, it is most likely from a papillomatous cyst. When thicker, yellow or brownish, it probably originates from dilated ducts beneath the nipple. If milky, cheesy, creamy, or oily, there is likely a galactocoele or persisting lactation hypertrophy. There must be other evidence to justify sacrificing the breast. An analysis of thirty cases with bleeding nipple from Eiselsberg's clinic showed: papilloma fourteen, fibro-adenoma five, chronic cystic mastitis four, carcinoma seven.

Retraction of the nipple should be regarded as suggesting malignancy unless the patient is positive it has been present for several years or unless there be good grounds for diagnosing some type of benign tumor.

PALPATION

Ninety per cent of the cases of breast tumor can be diagnosed clinically by the skilled surgeon and ninety-five to ninety-eight per cent by gross examination of the excised tumor. Of greatest importance is skillful palpation. Many a conscientious, though unskilled physician has unduly alarmed his patient by lifting a "lumpy" breast between the thumb and forefinger and convincing himself that a neoplasm existed there.

The proper examination should commence with careful inspection for eczema or retraction of the nipples, dimpling of the skin, or visible bulging. A tumor causing visible bulging is probably malignant. Palpation then proceeds with the fingers extended and the hand flat, gently compressing the breast against the chest wall, moving the breast tissue with a slow rotating motion. Successive areas are then examined, with the hand still flat, by "playing" the fingers over the gland as in playing the keys of a piano. These maneuvers are completed with the patient erect and then recumbent.

If a mass or nodule be found it is taken between the thumb and fingers and its size, consistency, and contour noted. The breast is then fixed with the other hand and the mobility of the tumor determined.

By this time the diagnosis will be correctly made in ninety per cent of the cases. If benign, it will be freely movable within the tissue of the firmly held breast. If it seems to be firmly held, "frozen" in place, it is malignant. If it

be one of several nodules it is probably benign because all but 1.2 per cent of breast carcinomata occur as single nodules.

The location of the tumor is of some interest. Of 2457 breast cancers operated at the Mayo Clinic 1048 (approximately forty per cent) were in the upper outer quadrant; 471 (approximately twenty per cent) were in the upper inner quadrant; the remaining forty per cent being in the lower quadrants, central, or diffuse.

MACROSCOPIC EXAMINATION

Every patient brought to operation with the slightest suspicion of breast cancer should be prepared for the complete radical operation. The final decision should rest mainly on the macroscopic evidence of the excised nodule and there should be immediate continuation to the radical procedure while the patient is still asleep, if the surgeon concludes that malignancy exists. It is rare that the macroscopic examination affords insufficient evidence for an accurate diagnosis. A tumor that is well encapsulated, and does not show a yellowish or whitish, granular exudate when its cut surface is scraped, is benign. A tumor without a distinct capsule, with striations extending out into the surrounding tissue is malignant. A smooth-lined cyst with a fibrous wall is benign. The cyst lined by soft necrotic tissue or containing blood may be malignant.

Ewing says, "Having made more errors by the frozen section method in breast cases than by the gross examination. I have not resorted to frozen sections in this field for many years, but rely almost entirely on gross inspection of the breast tissue. The cancer surgeon should become highly proficient in the recognition of cancer by sight and touch. No aid from frozen sections can replace this capacity. The use of frozen sections in arriving at an immediate diagnosis is doubtless helpful when the services of a competent pathologist are available; but it is not all important. But the excised tissue should always be sent to the laboratory for later deliberate microscopic study."

The danger of cutting into malignant tissue should be recognized, however. Rather than removing a fragment of the tumor tissue, the tumor should be excised in toto with adjoining breast tissue. Bloodgood has said that the cold knife may be used but that if there be any question, the wall of the remaining cavity should be painted with fifty per cent zinc chloride before the wound is closed.

Amputation of the breast without resection of the axillary nodes is almost never justified. If the lesion be benign, local excision is sufficient. If there be malignancy, resection of the nodes and the routine radical operation is obligatory. Lymphatic involvement occurs in seventy-one per cent at the time of operation, whether the nodes are palpable or not.

Removal of large areas of skin is not as necessary as was once believed. Handley has demonstrated that extension of mammary carcinoma is almost entirely by direct centrifugal permeation through the lymphatics. It is, therefore, essential to center the operation over the primary growth, to remove the deep fascia (and with it the plane of the main lymphatic plexus draining the area concerned). A small circle of skin four or five inches in diameter is ample, providing there be careful undercutting clear out to the margin of the excised deeper tissue.

Radiation seems to increase the number of cures where lymphatic involvement is not present. Harrington reported that where there was lymphatic involvement groups receiving pre- and post-operative x-ray compared with those not radiated showed four per cent more alive after five years, but seven per cent less after ten years. Without lymphatic involvement there were four per cent more of the radiated groups alive after five years and 1.5 per cent more after ten years. Repeated doses of moderate amount are better than heavy cross-fire which seems to increase the first year recurrences.

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THE PSYCHOSES ASSOCIATED WITH PREGNANCY THEIR ETIOLOGY AND THEIR PREVENTION

RALPH RUST WILSON, M.D.

Kansas City, Missouri

A. Introduction: It is no more the inalienable right of every woman to bear children normally than for every woman to become an operatic prima donna. A summary of life is simple, i. e., the survival of the fittest. In short, it is the resultant of two great forces, intrinsic and extrinsic, the former representing the endowment by nature in the individual, and the latter the outside factors encountered by this individual. Two of life's fundamental instincts, i. e., self-preservation and self-perpetuation, seem to lay at logger heads upon first consideration; but, on closer study this is found to be more apparent than real. Little is actually known concerning the relationship of pregnancy to the development of mental symptoms.¹ It is readily conceded that the majority of women pass into motherhood successfully and normally; and yet, there are that few who, either by lack of initial endowment or by a depletion of originally adequate forces, encounter complexes and difficulties. This group is for present consideration and of equal interest to the neuro-psychiatrist as to the obstetrician. As a matter of public welfare and national integrity it should be of interest to every one.

The occurrence of psychoses associated with some stage of gestation varies between one in 600 to 1000 pregnancies. It has frequently been estimated that between three and four per cent, of all female first-admission to psychopathic hospitals are definitely associated with pregnancy. It is the opinion of the writer that this is far from being a commanding figure, and it is yet to be proved that pregnancy alone causes any group of mental departures or any psychoses with definite peculiar tendencies. More and more is it being conceded that familial tendencies and neuropathic traits are of prime consideration.

For purpose of facilitating discussion and to add a measure of completeness the following classification of the psychoses associated with pregnancy is made. It is to be emphasized that this classification in no-wise attempts to establish etiology further than to recount the types as to their chronological order of occurrence:

Group I. Pre-conceptional Psychoses

a. Sexual neuroses

b. Pseudocyesis

c. Functional disorders

Group II. Gestational Psychoses

a. Pregnancy psychoses

b. Hyperemesis states with mental aberrations

c. Toxic states with mental disorders

d. Functional disorders

Group III. Postpartum Psychoses

a. Toxic states with mental disorders

b. Functional disorders

Functional disorders must by necessity be included in each group, inasmuch as there is yet no set time between the thirteenth and forty-fifth years of a woman's life for her to begin the role of procreation. Furthermore, toxic and exhaustive states may mask the inevitable in its incipency; nevertheless, a preponderance of the patients, if followed a sufficient length of time, would eventually develop true characteristics of the paranoid, the manic depressive, or the schizophrenic.

B. Etiology: Group I, as indicated above, includes various sex neurosis as dyspareunia, vaginismus, frigidity and pseudocyesis. This whole group is characterized by various forms of compulsive neuroses with inhibitions based on inferiority complexes and fears—fears of injury, fears of pregnancy, or even fear of being unable to meet the expectations of their mate. While it may be conceded that this group is developed in anticipation of the conclusion at the end of the presentation, the writer is firmly convinced that its importance cannot be overlooked for another reason: viz, How often have victims of postpartum psychoses revealed a history of sex maladjustment? It is not unreasonable to assume that some of these predestined victims early in life suspected their own mental instability; and, marriage had been a defense mechanism against an untenable state. Failure in this, being self-evident by the sudden appearance of maladjustments, led further to consent to bear children as an anticipated vehicle of escape. Contributing factors producing episodes in this group usually are transient endocrine disturbances, faulty sex education, occasionally acts of sex violence, but rarely toxemias or exhaustive states. Psychoses existing previous to conception naturally forewarns of departure during gestation and the puerperium.

In Group II, Gestational Psychoses, contributory precipitating factors assume greater prominence than any of the other groups. Men-

tal stability is difficult to measure and likewise the degree of a toxemia is difficult to estimate beyond the individual's reaction to it. While it is an accepted fact that toxemias alone can produce a state of insanity, it is not true that pregnancy per se produces toxemia. It is, therefore, necessary to give proper consideration to the individual's original ability to meet the situation whether it be in the nature of mental stress or altered physical metabolism. In their milder aspects each may resemble the other so closely that confusion may arise as to the weight of their respective roles. Most of these individuals, however, are predestined to encounter mental derangement under unusual stress, and the obstetrical experience alone is equally as potent a factor as is the existence of a toxemia.

(a) Pregnancy psychoses occur more often in first pregnancies and usually consist of mild and transient emotional states of confusion, insomnia, and melancholia manifesting strong tendencies to spontaneous recoveries before gestation is completed.²

(b) Hyperemesis states progressing to polyneuritis present dominant features of toxemia. The condition is characterized by pernicious vomiting in early pregnancy, progressive general weakness, tachycardia, nystagmus, with bizarre types of incoordination and painful nerve trunks. Mentally they are forgetful, disoriented and passive. It is the writer's impression that only in this class, so far as the psychoses associated with pregnancy are concerned, does a true Korsakoff's syndrome develop.

(c) Toxic states with mental disorders usually occur late in pregnancy and is usually seen in association with eclampsia, pre-eclampsia, anemia of pregnancy, and nephroses of pregnancy. The theory of focal infection remains insufficient for a complete explanation of the condition. Hafbauer⁴ and Anselmino⁵ hold reasonable tenets that hyper-pituitarism may be the etiological factor. Purfait in a small series reported half of his cases had peculiar primary anemias.⁶ Swadon found in a small number which were analyzed that a definite infective encephalitis existed.⁷

Psychopathic states occurring in chorea and tetany differ little during pregnancy than at other times. It is interesting to note, however, that remarkable advances are being made in establishing their origin in endocrine disorders and vitamin deficiencies.⁸ Unless severe, most cases in this group eventually establish a fairly complete recovery, although many never ac-

quire entirely their original mental stability.

Group III, Postpartum Psychoses, exhibits predominantly the factors of poor heredity and less significantly the elements of toxemia and exhaustive states. Exciting factors are more frequently such accidents as death of child, improperly conducted labor, severe mastitis, and even domestic situations. More multiparae fall into this group than primiparae.

(a) Toxic states with mental aberrations postpartum often reveal the source of the toxemia only after prolonged study. Most cases run a self-limited course and make complete recoveries, but exhibit tendencies toward recurrence under similar or equal stress when again encountered.

(b) Functional disorders occurring postpartum represent a pathetic group. This includes the paranoic, the schizophrenic, the maniac depressive, and the epileptic. Pregnancy as an entity has no peculiar influence in these cases other than it offers a situation of unusual stress. On the other hand, parturition in the insane seems to be remarkably free of puerperal sepsis, difficult labor, or accidents of delivery. There seems to be a prevalent impression, however, that episodes initiated by pregnancy have a worse prognosis than if precipitated by other general causes. Carl Henry Davis emphasizes this with respect to schizophrenics. It is difficult to state that insane mothers have a reduced fertility, but it is well known that an appreciable number have an acquired frigidity, and an appreciable number have amenorrheic tendencies—both factors seemingly would contribute to a relatively decreased fertility.

C. Prevention: The outburst of an episode in any of the above groups is the result of two distinct and separate factors. First, is the element of heredity or mental stability. Byron Smith estimates approximately thirty per cent of all cases are due to this alone.⁹ Second, the occurrence of coincidental factors as improper sex education, intercurrent disease, metabolic disturbances, endocrine imbalance, and inappropriate methods in the conduct of prenatal care and delivery. Management of the element of mental instability is best accomplished by indirect approach through attempting to determine what coincidental factors the individual encounters. Herein lies the principal duty of the obstetrician. By necessity, it is his responsibility of recognizing the symptoms, but withal it is the responsibility of the psychiatrist to teach the obstetrician the incipient signs of dis-

order before a serious stage is reached. Although a great percentage of these patients may be doomed from birth to experience episodes of derangement under special stress in life, without doubt there are women of high mentality, irreparably damaged by inappropriate management of their pregnancies.

Until such time as her obstetrician has conducted a thorough physical and laboratory examination, and has made a careful inventory of her background and general make-up, any pregnant woman is a potential psychopath. Being a physiological process, pregnancy cannot be considered a disease, but it has tendencies to aggravate previously existing unhealthy states. All things being equal the sound body harbors the most stable mind. Therefore, the obstetrician must be on guard from the beginning and maintain a constant lookout for such conditions as endocrinopathies, anemias, latent lues, focal infections, incipient tuberculosis, early goiter, diabetes, impaired kidney and heart functions, vitamin and calcium deficiencies, as well as pelvic disturbances.

Furthermore, the obstetrician must be ever mindful of the psychology of sex and the psychology of pregnancy. Unfortunately there is so little opportunity to study normal women in any great numbers. It would be a boon to womanhood if there were gauges of her mental stability equally as accurate as used for her vegetative functions. Briefly stated, cases falling into Groups I and III, unless they are very mild, should have the benefit of the neuropsychiatrist's opinion. Nothing is more cumbersome and awkward than an untrained physician attempting to delve into the depths of psychology and psychoanalysis, and peculiarly enough the patient usually senses it very quickly. In Group II, the neuro-psychiatrist may have to give way temporarily to the internist until the toxemia is cleared up, but the recovery is best left in the hands of the former.

In summarizing—the writer has strong convictions for considering each case as an individual problem, best managed in collaboration with the neuro-psychiatrist and perhaps an internist; except, of course, those cases of definite feeble-mindedness and well advanced functional psychoses. The latter is a matter of Public Health problem and whether it is better to permanently sterilize or to attempt measures with less finality is too big a question to be settled here today.

D. Conclusions: 1. Pregnancy per se pro-

duces no psychosis that can be recognized as a peculiar clinical entity.

2. At least half of the psychoses associated with pregnancy possess a faulty heredity (De Lee¹⁰).

3. The interruption of pregnancy or permanent methods of preventing conception for psychoses must be given the closest scrutiny before being instituted.

4. Mental stability once completely restored does not imply relapse with future psychoses, unless abnormal physical factors prevail.

5. The obstetrician must accept the responsibility of recognizing early symptoms of departure from the normal in the mental sphere of his patients as well as the vegetative make-up.

6. It is the responsibility of the neuro-psychiatrist to teach the bounds of normal mentality and to point out the danger signals of departure.

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James Warren Sever, Boston (*J.A.M.A.*, Feb. 2, 1935), is of the opinion that delayed union and non-union occur more often in the middle third of the shaft of the humerus after transverse fracture than in any other long bone. Spiral fractures that involve this region may be slow to unite, but so far he has known of no non-unions, or pseudarthroses. Of the five cases that he reports, three occurred in his practice and two are the misfortunes of others. He believes that one should report failures as well as successes and that there must be some intrinsic cause for non-union in fractures of the humerus that is not wholly understood. Trauma, from the accident itself, may so destroy the power of bone repair that union is delayed or prevented. Interference with the blood supply through the tearing of the nutrient artery may be another factor. Lack of adequate fixation, which is of the greatest importance, is another probable cause; and in the operative repair, primary internal as well as secondary external fixation is essential for a long period. However, it is practically impossible to immobilize the humerus completely in any type of external apparatus. In spite of an adequate consideration of all these factors, recurrent nonunion may, and does, occur in a certain percentage of cases. Lack of callus formation and interposition of tissue are often factors that must be considered. After his experience in the reported cases, the author believes that the only operation probably worth doing is that advocated by Campbell and Henderson: namely, the massive or onlay graft, followed by a sufficiently long period of fixation to ensure union and to carry one by the period of absorption and possible fracture of the graft. Even this operative procedure is, however, not infallible.

PRESIDENT'S PAGE

THE KANSAS MEDICAL SOCIETY AUXILIARY

To the Members of the Women's Auxiliary:

This year marks the decennial of the Women's Auxiliary to the Kansas Medical Society, it having been organized in May, 1925, at the 67th annual session of the State Society, at which meeting, the following petition was unanimously adopted:

"We, Members of the Central Kansas Medical Society Auxiliary, do recommend that there shall be an auxiliary to the Kansas Medical Society, and we do herewith ask permission of the Kansas Medical Society, assembled in Topeka, that the wives and mothers there in attendance, be granted power to organize such an auxiliary, to be known as the Kansas Medical Society Auxiliary, composed of the wives and mothers of members in good standing of the Kansas Medical Society.

Mrs. D. R. Stoner, President; Mrs. H. Z. Hissem, Vice President; Mrs. Leo V. Turgeon, Secretary; Mrs. Jonathan B. Carter, Treasurer."

Not because it is the custom to offer felicitations on birthdays and anniversaries, but because it is my pleasure, I wish, on behalf of myself and the members of the Kansas Medical Society, to extend to the Women's Auxiliary on this, its 10th birthday, hearty congratulations on past achievements and best wishes for future successes.

Kansas women never lag in progressive and constructive work, and realizing the importance of this auxiliary idea, Kansas women joined the movement, coming into the organization just three years after the National Auxiliary was formed—joining as the ninth state.

The Women's Auxiliary occupies a very important place in organized medicine today. There are so many opportunities for service that you, as wives of physicians, can perform; such great influence that you can exert in the interest of better health conditions for your county or district. The doctor's wife by her contacts with the various clubs to which she may belong carries the influence of the physician into farther places than he could possibly attain by his own effort.

Statistics show that the average number of clubs to which a doctor's wife belongs is three, and in some instances twelve. Twenty per cent of these clubs have a health program, and who is better fitted to serve on these committees than a member, or members, of the Women's Auxiliary?

There you have your opportunity to create sentiment for the promotion of public health and for public health legislation. And last, but not least, you may, by your contacts, spread the gospel of the benefits of organized medicine throughout the state, and at the same time, sound the alarm as to the dangers of socialized or state medicine.

Just now, looming large on our horizon, is the proposed Health Insurance program which we, as doctors, believe would be detrimental to both the insured and to the medical men, inasmuch as where Health Insurance has been introduced small consideration has been accorded the workers who are to be patients or to the doctors who furnish the medical service.

There is no real reason to suppose that a health insurance scheme is needed in the United States, or that the people would be benefited by such a plan. Health conditions in the United States are generally better than in any other country, not excepting those nations where health insurance has been in effect from twenty-five to fifty years.

The mortality and morbidity rate in the United States per 1000 population in 1933, as compared with other nations, is as follows:

	All deaths per 1000	Infant deaths per 1000	Diphtheria per 1000	
			Deaths	Cases
United States	10.7	59	3.9	39
Germany	11.2	76	5.6	114
England & Wales.....	12.3	63	6.3	117
Irish Free State.....	13.6	65	12.9*	113
Poland	14.2	128	17.0*	52
France	15.8	75	50
Kansas	10.4	53.4	2.8	35.4

*1932

These statistics are furnished by the League of Nations and the Kansas State Board of Health.

In the United States health improvement has been more rapid than that of other countries, and some of our states have unsurpassed health records. With these indisputable facts at hand it is quite evident that we have a very superior system of medical practice and public health service existing in the United States. No

other country in the world can boast of such a system.

The American Medical Association considers the subject of socialized medicine so important that a special session of the House of Delegates was called on February 15 of this year. The meeting lasted two days. This is only the second time in the history of the American Medical Association that a special meeting has been called. An emphatic report opposing any action along these lines was adopted by the House of Delegates. I quote the following from the report:

"The House of Delegates of the American Medical Association reaffirms its opposition to all forms of compulsory sickness insurance whether administered by the Federal Government, the governments of the individual states or by any individual industry, community or similar body. It reaffirms, also, its encouragement to local medical organizations to establish plans for the provision of adequate medical service for all of the people, adjusted to present economic conditions, by voluntary budgeting to meet the cost of illness.

The so-called Epstein Bill, proposed by the American Association for Social Security now being promoted with propaganda in the individual states, is a vicious, deceptive, dangerous and demoralizing measure. An analysis of this proposed law has been published by the American Medical Association. It introduces such hazardous principles as multiple taxation, inordinate costs, extravagant administration and an inevitable trend toward social and financial bankruptcy.

The medical profession has given its utmost to the American people, not only in this but in every previous emergency. It has never required compulsion but has always volunteered its services in anticipation of their need."

If organized medicine is forced to surrender the honorable position it has held through the ages, every practicing physician will be affected by the new order of things. His home and family will be affected in consequence—you women of the Auxiliary and your children. You can be of valuable assistance in the cause of organized medicine by familiarizing yourself with every phase of the question, and talking it in season and out of season. You are doing splendid work, and it would be presumptuous

of me were I to try to tell you how to do it. You know the way, I feel confident.

I believe, that with the earnest cooperation of members of the Auxiliary and the advisory committee, the number of organizations in the state can be considerably increased. The county societies may not realize what they are missing, or that they need an auxiliary, but with the clear presentation of the benefits of such an organization we expect them to see the light.

A news letter from the Auxiliary to the Journal each month is a very definite method of presenting to the profession the activities of your organization and your plans for future service. These letters bring a more intimate knowledge of the members and a greater understanding of the aims of your organization.

It is a fine idea for several county medical societies and their auxiliaries to have a joint social gathering—a dinner or supper, just as you choose. A joint meeting of this kind was recently held in Brown county with three other societies and auxiliaries attending, and it was one of the most enjoyable affairs one could ever wish to attend.

We hope that every member of the Kansas Auxiliary will be present at the next annual meeting of the State Society at Salina on May 8-9-10, and that you will bring your doctor along. It has been noted that the attendance at state and national medical meetings has been greatly increased since the organization of the Women's Auxiliary.

Salina is a beautiful city, well equipped with a fine auditorium suitable for convention purposes, and it is making a great effort to have this meeting the best ever. You will enjoy the social contacts and the inspiration you will receive from the meeting.

The excellent work of the Women's Auxiliary reflects credit on the organization, and most heartily do I commend you on your accomplishments. The Kansas Medical Society is proud of its Auxiliary, and it is expecting much of you in the days that are to come.

J. F. HASSIG, M.D., President.

EDITORIAL

MEDICAL HISTORY

Upon the wide base of the past raises our present structure of knowledge. Countless numbers of men have contributed their observations regarding their methods of diagnosis and treatment of the sick and injured. Many of these observations have withstood the test of time, others look absurd from our present rung on the ladder. They are all valuable.

Frequently someone introduces "a new method of treatment," "a new drug," "a new instrument" only to find that a much earlier worker hit upon the same idea. Much embarrassment would be saved by a slight acquaintance with history. True many of these reintroducers do valuable work in again calling attention to forgotten lines of procedure.

A more humble attitude pervades a man who will spend some time rubbing shoulders with Pasteur, Harvey, Laennec, Osler and Murphy—a good treatment for inflated ego. These master minds not only humble us but serve as an inspiration for better work.

An acquaintance with current medical literature is a goal we all strive to attain. It would also be time well spent to review the accomplishments of those men who blazed the trails. The dead still teach the living.

ECONOMICS COMMITTEE

An important act of our State Council at its January meeting was the creation of a Committee on Economics the membership of which is announced by President Hassig in this issue. This group will have a very important and difficult function. The recent Reference Committee report of the House of Delegates makes no concrete suggestion beyond recommending that county societies work out plans to meet current problems so it becomes imperative for our state organization to go farther and be a real aid to our local societies. The economics committee will be expected to do this and it is also hoped will use the columns of the Journal

to give accurate and timely information on economic projects.

The personnel of the committee is such that it guarantees that these hopes will be realized.

STYLES FOR PHYSICIANS

Robert T. Morris, the widely known New York surgeon, in his new book of reminiscences entitled "Fifty Years a Surgeon," gives an interesting picture of physicians in the eighties. He says they went about in dark frock coats and silk hats. Only the more reckless of the younger practitioners who were on a sure footing went about in business suits. There was an occasional relaxation in the form of a cut-away and derby, but it was not until several years later that the more daring ones wore business suits daily. In Europe, however, and among the older men in America, anything except the frock coat and silk hat was unthinkable.

At the operating table if the surgeon was crude in his manners, the coat was removed or replaced by a gown of black mohair, but usually the long black coat was retained as a courtesy to relatives. Pean, the great French surgeon, always wore a full dress suit when operating at the Hotel Dieu or in his private hospital. A surgical operation was a notable event of a theatrical nature and surgeons responded in kind, at least in matters of dress.

There is one interesting courtesy that was always extended visiting surgeons that was abolished by Lister in this decade. It was customary for the visitor to have the privilege of inserting his finger into the wound after carefully pulling up his coat to save it from soiling.

PREPAYMENT AND INSURANCE PLANS

Examination of current medical journals furnishes abundant evidence that the insurance principle applied to medical service is being seriously studied and experimented with throughout the United States. The necessity for this is questioned by many writers and men in active medical practice, while leaders in health administration and in social work take the op-

posite view. In this difference of opinion may be seen the conflict of the ages between realism and idealism. Like the parallel lines that meet in infinity, realism and idealism run through all the activities of life and the conflict may be seen as the constant effort toward synthesis of these two forces.

It is evident to every practitioner of medicine that most farmers and low wage earners have very little medical money. These people reluctantly seek medical aid and when medical service is rendered many of them deny payment. They may have a little money for living necessities but their fear in a precarious economic situation makes them keep their money in a can instead of in a bank. They have no bank credit, so the doctor carries the credit. In addition to the enormous amount carried on the books, physicians are doing a great volume of charity work. The obligation of paying for medical service to the indigent is, according to law, that of the county, but when the county funds are hopelessly insufficient the money for medical service will not be forthcoming. The question arises, how long will physicians and hospitals be able to carry on?

Thus far the various insurance proposals and methods put into experimental operation are apart from the problem of medical care of the indigent. No plan which does not meet this situation is at all adequate. The present temporary medical service under the FERA, which Kansas does not receive, embraces about six million families.

In the opinion of many technologists the problem of health and administration of medical service must ultimately be solved by technological methods, yet the actuality of this approach must await the organization of the ideal society state.

What is actually being thought and done is exemplified in the recent action of the House of Delegates of the Michigan State Medical Society. A "Mutual Health Service" plan was submitted by its committee on Medical Economics after a three year study. The proposal carried the qualification that it should not be inaugu-

rated in any county without the approval of the county and state medical society. The administration of Michigan's proposed pre-pay plan is presided over by a Board of Governors of three physicians, one dentist, one pharmacist, one nurse and one hospital superintendent. This board is elected by the respective state organizations. With some restrictions the service would include care by family physicians, specialists, dentists, nurses, hospital care, laboratory, drugs, surgical and optical appliances. It is estimated that the annual cost would be about twenty-eight dollars a person and the intention is to limit the service to employed persons and their families whose income does not exceed one thousand, five hundred dollars a year. The plan is worked out with the proper authority in control and designed to maintain the doctor and patient relationship, yet it will appear to many as wholly inadequate when applied to the mass population of almost any given community. We have not seen a statement on the Michigan proposal giving the amounts to be paid to physicians serving the organization. The security of the doctor should receive careful consideration in any such scheme. When the doctor's income is limited his training will become limited. It is not so much the maintaining of economic status as it is to provide him with sufficient income for the pursuit of post-graduate study, to widen his knowledge and enrich his own experience by visiting clinics at frequent intervals, to sustain that professional interest and incentive which is nearest the heart of the doctor.

The Committee on the Study of Health and Accident Insurance for the Oregon State Medical Society reports its findings to the effect that the incomes of a large proportion of the citizens were so low that it is extremely difficult for them to bear the cost of acute illness and that there is a growing public demand that some scheme be devised to provide adequate medical and hospital care for low wage earners on a periodic payment basis. The Committee emphasized the grave danger of non-professional commercial organizations which will lower the

present quality of medical service. Upon this report the House of Delegates authorized the Council to consider and approve a periodic pay plan for the group care of low wage earners. The plan follows closely the stipulations of the resolutions of the House of Delegates of the American Medical Association.

As in Michigan and Oregon and Georgia, so it is throughout the country.

While the House of Delegates of the American Medical Association, meeting recently in Chicago, demands that the status quo be maintained and advises that each community work out its own problem according to the particular needs, the President's Committee on Economic Security is working out plans for health insurance legislation to be of national application.

The widespread propaganda for the socialization of medicine which began, following the report of the Committee on the Cost of Medical Care and has continued to the present, indicates that a powerful attempt is being made to "sell" socialized medicine to the people of the United States. It is to be devoutly hoped that our representatives in the positions of influence in the American Medical Association will see clearly the realities before us, with the important social problems involved, and that they may be able to wrest from those in power a plan that will be humanitarian and will preserve the dignity, individuality, and scientific incentive of the physicians of the United States.

James D. Stewart, Eugene Birchwood and H. Gideon Wells, Chicago (J.A.M.A., March 2, 1935), examined a small series of hearts to determine the relation between the size of the lumen of the coronary arteries at the site of atherosclerotic plaques, as seen in the collapsed artery in the usual postmortem examination, and the true size of the lumen when the artery is distended by the usual blood pressure. The results indicate that coronary arteries exhibiting many atherosclerotic plaques which, as seen at postmortem examination seem to cause marked local constrictions, may, when distended by the usual blood pressure, possess a fairly uniform lumen without evidence of constriction. Apparently the atherosclerotic plaques in coronary arteries do not necessarily protrude into the lumen during life, and the apparent narrowings seen in the dead body may not have existed during life.

MEDICAL SCHOOL CLINIC

JAUNDICE IN TYPHOID FEVER WITH CASE REPORT

MAXWELL G. BERRY, M.D.*

As typhoid fever becomes more infrequent its more uncommon complications are rarely seen. Consequently jaundice, one of the rare complications, is more or less of a curiosity. Da Costa¹ reviewed forty-seven cases reported in the literature prior to 1898 and added five cases from his experience. McCrae² saw only eight cases in his series of 1500 and Curschmann³ considers it one of the rare complications. Jennings and Morse⁴ and Coleman⁵ also consider jaundice unusual in typhoid fever.

The relative infrequency of this condition and the possible difficulty in clinical interpretation prompt the report of a case seen recently.

CASE REPORT

W. K., an eighteen year old white male laborer, was admitted to the University of Kansas Hospital at 9:30 p.m., September 19, 1934. He had been well except for an indefinite morning cough until September 5 when he fainted while at work. On September 9 he had a chill followed by fever, since which time he has been in bed with a continuous fever. On September 13 slight icterus was noted, which has gradually deepened. After taking a cathartic he passed several bloody stools on the day of admission. He states that one sister had a similar illness, accompanied by jaundice, six months previously.

Physical Examination: On admission he was deeply jaundiced and quite stuporous; temperature 102.6 degrees; pulse 140, soft and compressible but not dicrotic; blood pressure 118/40. No rose spots were observed; they being probably veiled by the jaundice. There were many purpuric spots and he was bleeding from the mouth at the site of a cut two days old. The abdomen was obese; spleen barely palpable and the liver, moderately tender, extended four centimeters below the right costal margin. Chest examination showed no dullness or impairment of breath sounds, but numerous moist rales were heard everywhere.

Laboratory: The urine contained two plus bilirubin. There was a moderate secondary anemia; 8,700 leucocytes of which ninety-

*Department of Pathology, University of Kansas School of Medicine.

three per cent were polymorphonuclears and four per cent lymphocytes. The coagulation time was one hour and thirty minutes. Platelet count 60,000. Blood chemistry: non-protein nitrogen 177 milligrams, creatinine 3.4 milligrams, glucose 124 milligrams per 100 centimeters; icterus index 150; Van den Bergh reaction was direct and read 48 milligrams per 100 centimeters. The serum agglutinated *B. typhosus* in dilution of 1-640 and *B. Paratyphosus A* in a dilution of 1-160.

Temperature varied between 102.6 degrees and 104 degrees; pulse continued fast. He passed much blood by rectum. Parenteral fluids and one blood transfusion were given and another blood study on September 20 showed the same degree of anemia, with 4,950 leucocytes of which eighty-one per cent were polymorphonuclears and seventeen per cent lymphocytes. Blood chemistry showed the same nitrogen retention.

On the morning of September 21 he passed several copious bloody stools followed by circulatory collapse and death at 3:00 p.m.

Pathological Report: At autopsy, twenty minutes post-mortem, numerous large characteristic typhoid ulcers of Peyer's Patches and of the mucosa of the lower ileum and cecum were found. The ileum and cecum were filled with blood. The spleen and lymph nodes as well as the ulcers showed the histological changes characteristic of typhoid fever.

The liver was twice normal size, yellowish-brown and greasy. Numerous areas of focal necrosis and advanced fatty degeneration as well as a marked hydropic degeneration of the parenchyma were found. The gall bladder showed no pathological change. There was an early hemorrhagic broncho-pneumonia and an acute diffuse nephritis.

Pure cultures of *B. typhosus* were obtained from the blood before death and from the heart's blood and bile at post-mortem.

It was thought that death was immediately due to the extensive intestinal hemorrhage, the marked cholemia and low platelet count being contributory factors.

Comment: The marked jaundice seen in this case was evidently toxic in origin and due to the degenerative changes in the liver parenchyma.⁶

When typhoid fever complicated by jaundice presents itself it may bring an interesting problem of differential diagnosis. Empyema of

the gall bladder, if followed by cholangitis and liver abscesses, acute yellow atrophy, pyemia, syphilitic fever and Weil's disease, must also be considered when deep jaundice, right upper abdominal tenderness and a considerable degree of fever occur together. The highly positive Widal reaction established the clinical diagnosis in this case.

Conclusion: A case of typhoid fever is reported having the unusual complication of jaundice with low platelet count, purpura and fatal hemorrhage.

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LABORATORY

THE STERNAL PUNCTURE METHOD OF OBTAINING MARROW DURING LIFE

EDWIN E. OSGOOD, M.D.*

Portland, Oregon

Sternal puncture as a method for obtaining marrow during life was introduced by Arinkin¹ and has been investigated further by a number of other workers.² An analysis of the various procedures led to the development of the following technic.³

Have the patient lie on his back with a pillow under the shoulders and prepare the region of the sterno-manubrial junction with iodine and alcohol, using aseptic technic, locate the sterno-manubrial junction as a definite ridge opposite the cartilage of the second rib and infiltrate the overlying skin, subcutaneous tissue and periosteum with procaine. Introduce an eighteen gauge spinal puncture needle, previously cut to a length of three or four cm. and resharpened, into the sterno-manubrial junction at an angle of about sixty degrees to the plane of the body of the sternum. Depress it to an angle of thirty degrees and force it on into the marrow cavity of the sternum, resting the fingers against the chest so that there is no danger of too deep penetration. If much resistance is encountered, the needle may be ro-

*From the Department of Medicine, University of Oregon Medical School, Portland, Oregon.

tated. There is a definite decrease in resistance when the marrow cavity is entered. The needle should never be introduced deeper than 1.5 cm. Remove the stylet, attach a tight 10 c.c. Luer syringe and aspirate 1 or 2 c.c. of marrow which looks like blood. If no marrow is obtained even on strong aspiration, insert the needle a little deeper and repeat the aspiration. Transfer the aspirated material to a small test tube containing 2 or 4 mg. of dry potassium oxalate according to whether 1 or 2 c.c. of marrow were withdrawn. Cork, turn in a horizontal position and shake thoroughly. Replace the stylet, withdraw the needle and place a drop of colodion over the wound. The only discomfort felt by the patient is the initial stick of the hypodermic needle in the infiltration and a peculiar drawing sensation if the marrow is rapidly withdrawn. The procedure is a little more difficult than a venipuncture and considerably less difficult than a spinal puncture.

The oxalated marrow is suitable for any hematologic examination which can be done on oxalated blood.⁴ A total nucleated cell count made by the same technic as for a white cell count and a differential count of five hundred nucleated cells yield information of the most value. Reticulocyte counts⁵ and peroxidase stains are often helpful. Use double the staining time with Wright's stain and buffer phosphate that have been found most satisfactory for blood. Details of the technic of the methods and criteria for the identification of the cells will be found in the reference cited.⁶ Normal values³ are given in the accompanying table (total nucleated count 15 to 70 thousand per 100 c.m.)

Normal Differential Cell Count on Sternal Marrow
Based on a Study of 28 Cases

	Average per cent	Range per cent
Segmented neutrophils	13.30	7.0 to 25.0
Segmented eosinophils	0.45	0.0 to 1.0
Segmented basophils	0.10	0.0 to 0.2
Staff cells, eosinophils	0.80	0.0 to 2.6
Staff cells, neutrophils	24.10	15.0 to 35.0
Staff cells, basophils	0.06	0.0 to 1.0
Metamyelocytes, neutrophils	7.40	1.0 to 10.0
Metamyelocytes, eosinophils	0.64	0.0 to 2.0
Myelocytes, neutrophils	0.86	0.0 to 10.0
Promyelocytes, type I	1.68	0.0 to 5.0
Promyelocytes, type II	1.48	0.0 to 5.0
Myeloblasts (stem cells)	0.44	0.0 to 2.0
Lymphocytes	10.60	4.0 to 16.0
Monocytes	2.06	0.0 to 5.0
Normoblasts	12.40	5.0 to 20.0
Megaloblasts	1.70	0.0 to 5.0
Disintegrating cells	20.80	10.0 to 30.0
Reticulocytes	1.95	1.0 to 5.0
Myeloid erythroblast ratio.....	3.61:1	2:1 to 9:1

The method has proved of value in the diagnosis of many types of blood dyscrasia as well as in a study of the histogenesis of the blood cells. Absence of nucleated erythrocytes, leukocytes and reticulocytes is diagnostic of aplastic anemia. A definite increase in myeloblasts and promyelocytes is diagnostic of myelogenous leukemia and is present even in those cases which run an aleukemic course. A great increase in lymphocytes with the presence of large lymphocytes (differentiated from promyelocytes by a negative peroxidase stain) is characteristic of lymphatic leukemia and infectious mononucleosis. Promonocytes and monoblasts have been found as the predominant cell in monocytic leukemia.³ A great increase in the number of megaloblasts is diagnostic of untreated pernicious anemia. A great increase in the number of normoblasts occurs in anemias due to iron deficiency (chronic hemorrhage, idiopathic hypochromic anemia, nutritional anemia, chlorosis), lead poisoning and many anemias due to infection. The characteristic cells may be found in cases of multiple myeloma, xanthomatosis, Niemann-Picks's disease and Gaucher's disease, but failure to find these cells does not exclude these conditions. In malaria, the parasites are more numerous in the marrow than in the red cells of the circulating blood and I have demonstrated all stages of phagocytic digestion of malaria parasites by the neutrophil cells in the marrow, whereas in the circulating blood only the pigment granules remaining have been observed. The cases of lymphosarcoma and Hodgkin's disease so far studied have shown no striking deviation from the normal.

It has been possible to demonstrate that the megaloblast is the precursor of the normoblast and not a separate cell type as is claimed by Piney and others, that the monoblast and promonocyte are the precursors of the adult monocyte, and that the Türk cell is the precursor of the Marschalko plasma cell by these marrow studies.

The only disadvantage of the method is that the structural relationships are lost. The advantages of the method are many. Its simplicity permits the study of the marrow during life in any blood dyscrasia. The detail of cell morphology obtainable which equals that in the best blood smears makes an accurate differential cell count possible. The course of a case may be followed by repeated examinations. The normal values have been established giving

a definite basis for comparison. The material obtained is suitable for many types of hematologic examination.

Summary: The technic and interpretation of a simple method of obtaining bone marrow during life are given.

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3. Holmes, W. F., and Broun, G. O.: Clinical Study of Bone Marrow by the Sternal Puncture. *Proc. Soc. Exp. Biol. Med.* 30:1306 (June) 1933.
4. Young, R. H., and Osgood, E. E.: Sternal Marrow Aspirated During Life Cytology in Health and Disease. *Arch. Int. Med.* 55:186 203 (Feb.) 1935.
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7. Osgood, E. E., Baker, R. L., and Wilhelm, Mabel M.: Reticulocyte Counts in Healthy Children. *Am. J. Clin. Path.* 4:292 (May) 1934.
8. Osgood, E. E.: Textbook of Laboratory Diagnosis. Ed. 2. P. Blakiston's Son and Company, Philadelphia. 1935.

MEDICAL LITERATURE

Edited by William C. Menninger, M.D.

ARTERIOLAR INFARCTION

Dr. Meakins presents very briefly the pathology of those hemorrhages into the skin, mucus membranes, and viscera which are of such common occurrence in eclampsia, acute hemorrhagic Bright's disease, hyperpiesia and chronic hemorrhagic Bright's disease, where hypertension is a prominent feature. He believes that the use of the word infarct is more expressive than hemorrhage, and that these are due primarily to a vaso-constriction leading to slowing of the blood stream and then a more or less extensive diapedesis of the erythrocytes into the surrounding tissue.

Meakins, J. C.: ARTERIOLAR INFARCTION. *Annals of Internal Medicine.* 8:661-668 (Dec.) 1934.

PERSONALITY FACTORS IN PHYSICAL DISEASE

The writer from the Department of Medicine at the Temple University School of Medicine in Philadelphia presents the problem of the approach of the general physician, particularly the internist and surgeon, to the problems of the psychoneuroses. His paper is a concise and very good presentation of the general attitude of looking for something physical or insisting on treating something physical and disregarding the personality. He feels that we have been paying only lip service to the concept of treating

the organism as a whole. He states further that the physician must be able to define the specific mental factors producing the illness (any neurotic illness) rather than being satisfied with the vague generalization about "neurogenic background."

Weiss, E.: PERSONALITY STUDY IN THE PRACTICE OF INTERNAL MEDICINE. *Ann. Intern. Med.* 8:701-709 (Dec.) 1934.

TRANSURETHRAL PROSTATIC RESECTION

The writer, Bumpus, is Associate Professor at the University of Minnesota Medical School. In this report he gives his experience which is primarily that at the Mayo Clinic in 1932-33 in 721 cases. Twelve per cent of the patients required multiple resection for complete relief of residual urine. He concludes that the experience with this procedure indicates that the relief of urinary obstruction resulting from prostatic hypertrophy can be so obtained, and with less risk and discomfort to the patient and with a functional result equal to that obtained by prostatectomy. He cautions, however, that it is a highly technical procedure requiring special training and experience.

Bumpus, H. C., Jr.: TRANSURETHRAL PROSTATIC RESECTION. *New Eng. J. Medicine* 211:871-875 (Nov. 8) 1934.

CARCINOMA OF THE TONSIL

This material covers 230 patients with malignant disease of the tonsils seen by the laryngological staff of the Collis P. Huntington Memorial Hospital in Boston. The incidence of tonsillar malignant disease is about one in every 106 cancer patients in this hospital. He gives a statistical study of the nativity, occupation, sex, family history, symptoms, and the glands and the pathology of the tumor, as well as a summary of the treatment. He concludes that in certain selected cases surgery may still have a place in the treatment of malignant disease of the tonsils, but when the lesion has spread beyond the tonsil the combined use of radon implantation and external irradiation has given the best and most encouraging results.

Schall, L. A.: CARCINOMA OF THE TONSIL: A Statistical Study of 230 Cases. *New England J. Med.* 211:997-1000 (Nov. 29) 1934.

MENTAL HYGIENE AND PUBLIC HEALTH

Dr. Rosenau on the Twenty-fifth Anniversary of the National Committee for Mental Hygiene delivered an address on this subject in which he points out that Mental Hygiene should concern itself particularly with the most difficult and complex problem of attaining and maintaining a sound mind. For this reason he pleads that researches in the study of mental

health should be supported and encouraged by the medical profession, since if we are to prevent and cure these disorders in the individual as well as in society we must know more about the mind and its workings. He writes that he knows of no field in which the harvest will yield greater benefit to mankind.

Rosenau, M. J.: *New England J. Med.* 211:1008 (Nov. 29) 1934.

CARDIOVASCULAR REVIEW FOR 1933

It will be of special interest to internists and men devoting themselves largely to cardiovascular diseases to read the very excellent review of the above title by Paul White and Howard Sprague of the Massachusetts General Hospital in Boston. They review it very thoroughly beginning in the November 29 issue of the *New England Journal of Medicine* and continue it in subsequent issues, covering the whole subject very systematically and giving an extensive review of all the newer publications on the subject during the year 1933.

White, Paul D. and Sprague, Howard B.: *CARDIOVASCULAR REVIEW FOR 1933.* *New England J. Med.* 211:1015-1024 (Nov. 29) 1934.

OCCUPATIONAL THERAPY IN TRAUMATIC CONDITIONS

The writer who is Director of Occupational Therapy at the New York Post-Graduate Hospital and Medical School points out very clearly some of the advantages of occupational therapy in various traumatic lesions as a much more preferable way to give exercise than by specific recommendation to move the injured part a certain number of times. Specifically, she applies this to Colles' fracture and other types of fracture around the wrist, indicating the value of woodworking for such, block-printing and weaving. She carries the idea further to other types of injuries suggesting various crafts which will accomplish the prescription of active exercise for the parts, and thus take away the patient's interest in the pain and direct it with much more satisfaction to some creative pastime.

Hurt, S. P.: *OCCUPATIONAL THERAPY IN TRAUMATIC CONDITIONS.* *Archives of Physical Therapy, X-Ray, Radium.* 15:673-675 (Nov.) 1934.

TREATMENT OF GENERAL PARESIS BY ELECTRO-PYREXIA

The author, Dr. Kuhns, who is the Director of Research at the State Psychopathic Institute in Elgin, Illinois, reports on the treatment of general paresis particularly by the electric blanket which has been in use at the State Hospital at Elgin for four years. During this time

they have treated 230 patients, seventy-two per cent of whom were definitely improved, ten per cent remained stationary, seven per cent have deteriorated and eleven per cent have died. Of the improved patients thirty per cent were discharged by the Elgin Hospital and fourteen per cent are now on parole. The author believes that the electric blanket offers the simplest and safest form of fever-producing agency. He states that speech was improved in eighteen per cent of cases and gait in about eight per cent, though there was little alteration in other neurological signs. The Wassermann and Kahn tests of the blood were reduced in strength in only 6 of the 230 patients, and the same test in the spinal fluid remained the same in all of the cases.

Kuhns, R. H. *THE TREATMENT OF GENERAL PARESIS BY ELECTRO-PYREXIA.* *Archives of Physical Therapy, X-Ray, Radium.* 15:725-728 (Dec.) 1934.

ACUTE INTESTINAL OBSTRUCTION

The writer analyzes one hundred consecutive cases of acute intestinal obstruction in which operation was performed in the Reading Hospital, Pennsylvania, between 1925 and 1933. He comes to the rather trite conclusions that the mortality in this condition is too high and that the only way to reduce the mortality is to relieve the obstruction before it is too late. He points out significantly, however, that waiting for a perfect and detailed pre-operative diagnosis is the cause of death in most of the fatal cases and that in a case of early obstruction a complete operation can usually be safely performed. He found death due to three primary factors: (1) obstruction of the fecal current, (2) necrosis of the intestines, (3) the production and absorption of toxins. He analyzes these cases as to the clinical diagnosis, laboratory diagnosis, the level of obstruction, the cause of death, the mortality relation to anesthesia, the treatment and the results of operation. There is no attempted review of the literature but the article is a concise, brief analysis of one hundred cases of this difficulty.

Rentschler, C. B.: *ACUTE INTESTINAL OBSTRUCTION: Immediate and Late Results in 100 Consecutive Cases.* *Archives of Surgery* 29:828-836 (Nov.) 1934.

X-RAY TREATMENT OF MENOPAUSAL MENORRHAGIA

This writer carries out the Heyman technique in a series of thirty cases of menopausal menorrhagia, inserting radium into the uterus. He feels he has obtained very encouraging results, with less difficulty than is usually experienced in the use of deep x-Ray therapy for the pro-

duction of the menopause. The latter always has the difficulty of accurately regulating the dose applied to each ovary, particularly when the ovaries are not situated in their usual position. Radium therapy, however, is only practical and advocated when bleeding is the only symptom and when no gross pathological lesion is present to account for the hemorrhage.

Broidos, A.: MENOPAUSAL MENORRHAGIA AND ITS TREATMENT BY RADIUM. *Radiological Review*. 56:228-233 (Sept.) 1934.

THIO-SARMINE IN THE TREATMENT OF SYPHILIS

The author who is connected with a government hospital in India reports the treatment of syphilis with this new arsenic compound, chemically sulpharseno-benzine which contains 19.5 per cent to 20.5 per cent of arsenic. It is given intravenously, intramuscularly, or subcutaneously, although his treatments seem chiefly to have been intravenously. He does not state the number of cases but says he has given over 200 injections and has followed several patients through a full course of treatment. The cases, however, are limited to either early syphilis or late skin syphilis. He believes that its chief advantage seems to be the lack of reaction which it produces, none of the patients having had headache, nausea, diarrhoea, gastritis, nitroid crises or dermatitis. In two cases he noted giddiness and vomiting a few minutes after the injections with a slight fever but nothing more severe. In all but one of these cases the Wassermann and Kahn reactions in the blood became negative and in the only case that they did not the symptoms disappeared.

Rao, B. R.: THIO-SARMINE IN THE TREATMENT OF SYPHILIS. *Calcutta Medical Journal* 29: 165-169 (Oct.) 1934.

TRETMENT OF HEMIPLEGIA

These writers in the Protestant Episcopal Hospital in Philadelphia treated a group of patients suffering with hemiplegia by passing diathermy current through the brain. Subjective improvement of the patients was observed but little objective change was noted. They believe that the brain temperature cannot be elevated to a point of causing damage by the ordinary diathermy current. They used from 400 to 1000 milliamperes medium voltage over a period of 30 minutes' treatment three times a week, with no appreciable discomfort or ill effects. The improvement in the subjective complaints was noticeable, sleep being very much improved, tremors less, spasticity reduced, mental attitude much improved and im-

provement in speech, strength and coordination.

Martucci, A. A., Hadden, S. B. and McGlone, B.: TREATMENT OF HEMIPLEGIA. *Archives of Physical Therapy, X-Ray, Radium* 15:734-738 (Dec.) 1934.

THE ARTHRITIDES

Dr. O'Connor of the Department of Surgery from the Yale University School of Medicine presents a rather conservative concept of the treatment of the various forms of arthritis which he classifies very simply into acute and chronic and each of these into subdivisions of infectious and non-infectious, and these again into bacterial, toxic and traumatic. He discusses very briefly the etiology of these various groups but maintains that in general the arthritides are not the hopeless group of diseases that they are reputed to be. The treatment he believes depends upon developing the viewpoint of the internist and the training of the orthopedist.

O'Connor, D. S.: A RATIONAL APPROACH TO THE UNDERSTANDING OF THE ARTHRITIDES. *Yale Journal of Biology and Medicine* 7:41-46 (Oct.) 1934.

TREATMENT OF WARTS

The author, who is Associate Professor of Dermatology in the University of Southern California, reports the use of a combination of roentgen therapy and superficial electrodesiccation. Using a fine spark, the verrucous surfaces are lightly seared. The patient returns at weekly intervals and the procedure is repeated. The writer has used this method now for twelve months and believes it to be the one of choice. He states that the degree of pain is negligible and easily tolerated.

Sutherland-Campbell, H.: COMMON WARTS. AN EFFECTIVE TREATMENT. *Arch. Dermat. & Syphil.* 30:821-822 (Dec.) 1934.

SURGERY OF THE BILIARY TRACT

Dr. Gray of the Division of Surgery of the Mayo Clinic reports on 690 consecutive operations on the biliary tract. Of this number 86.8 per cent were on the gall bladder, 7.9 per cent on the extrahepatic biliary ducts and 3.3 per cent on the liver. An additional two per cent were carcinoma of the gall bladder or ducts. In this entire series 54.5 per cent were chronic cholecystitis with stones and 12.1 per cent were chronic cholecystitis without stones. Dr. Gray discusses the physiology of the liver and the gall bladder and then the pathological anatomy and the surgical procedures for each of these more common types of conditions. He concludes that it should be emphasized that dogmatism has no place in surgery of the biliary tract because each patient presents an individual problem.

Gray, H. K.: SURGERY OF THE BILIARY TRACT. *Southwestern Medicine*. 18:229-235 (July) 1934.

TUBERCULOSIS ABSTRACTS

TUBERCULOSIS IN NURSES

In interpreting the results of various authors who have studied tuberculosis among nurses, one must realize that two types of tuberculosis develop in the human body, the first infection and the reinfection types. The former begins to develop on tissues that are not allergic to tuberculo-protein. The natural defense mechanism of the body brings it under control and has it so encapsulated before allergy can be detected that it does little or no harm in most cases. It is so benign that most persons who have it do not know when it developed. This is the type of tuberculosis that formerly was prevalent among children; but through antituberculosis measures many children now escape it and reach young adult life free from contamination with tubercle bacilli. If they later come in contact with tubercle bacilli, as many students of nursing do, and are not adequately protected against exposure to patients suffering from tuberculosis, they take tubercle bacilli into their bodies. These bacilli find lodgment on tissues that are not allergic and there the tissues react as to a foreign body; in short, the reaction is not specific, and the result is not different than it would have been had their first infection occurred in childhood. In the majority of these cases there is no external manifestation aside from the positive tuberculin reaction.

"In the case of the reinfection type of tuberculosis, the story is quite different. Here tubercle bacilli find lodgment on allergic tissues and a specific reaction follows. This consists of acute inflammation, and if the bacilli are not brought under control in a short time there is necrosis of the tissue as well as stimulation of fixed tissue cells, resulting in fibrosis. This is what is designated 'clinical tuberculosis.' It is the type that results in most of the illness and death from tuberculosis in the human family. Obviously, it can develop only in the bodies of persons whose tissues have previously become allergic to tuberculo-protein through the presence of the first infection type of tuberculosis. This type of disease may develop soon after the first infection type renders the tissues allergic or at any subsequent time in life, depending on whether tubercle bacilli are taken into the body from outside sources or whether tubercle bacilli are set free from the foci of first infection already present.

In a small number of nurses who become infected for the first time, bacilli are carried to the visceral pleura soon after the first infection occurs, and there on allergic tissue they produce pleurisy with effusion. Likewise from a first infection focus located in or near the central nervous system tubercle bacilli are carried into the ventricles of the brain or directly into the sub-arachnoid space and on this allergic tissue they produce diffuse tuberculous meningitis. Again the regional lymph nodes, which drain the first infection focus and become a part of the picture of the first infection type of disease, may rupture into a blood vessel and miliary disease results. And so on with numerous other possibilities, once bacilli are lodged in the body. It is possible that the danger of rupture of capsules of primary foci and the rupture of regional lymph nodes involved with tuberculosis is greater soon after the lesions have developed than in subsequent years, since in infancy and early childhood, in places where large numbers of infants are contaminated, tuberculous meningitis and miliary tuberculosis are prevalent and in recently infected students of nursing, pleurisy with effusion is quite common. However, Sweany on the basis of pathologic examinations (*Am. Rev. Tuberc.*, 27:559, June, 1933) has suggested that nature may defeat her purpose in that she first encapsulates tubercle bacilli and in subsequent years resorbs the capsule, thus setting free tubercle bacilli. Therefore there is both an immediate and a remote danger from the first infection type of disease. Moreover, at all times there is the danger of tubercle bacilli from exogenous sources entering the body and finding lodgment on allergic tissues.

"Thus, a large percentage of the cases of tuberculosis reported among students of nursing previously negative to the tuberculin test are only those of the first infection type of disease. In previous times they would not have been known to exist, but now with the tuberculin test and other phases of examination they are detected when no symptoms or physical signs are present. Even those who developed erythema nodosum, probably as a result of a high degree of allergy, would not have been diagnosed tuberculous, because it is only recently that the close association between this condition and the first infection type of tuberculosis has been generally recognized. A few of these students, after developing the first infection type of disease and becoming allergic, have

developed chronic pulmonary tuberculosis, pleurisy with effusion, tuberculous meningitis, miliary tuberculosis, and other forms of the reinfection type of disease, just as one would expect. At the same time, wherever observations have been made among those who entered the institutions positive to the tuberculin test some of these have developed the reinfection clinical forms of the disease.

"Unfortunately, after the first infection type of tuberculosis produces allergy there is no way of determining how much contamination enters the body from exogenous sources. It seems reasonable to believe, however, that if all the uncontaminated students become infected during their training, those who are already contaminated when they enter are reinfected. It is a well established fact that tubercle bacilli, whether from endogenous or exogenous sources, are rather quickly fixed in the tissues, where they lodge by inflammation or otherwise. Unlike many pathogenic micro-organisms, they are not destroyed but survive over long periods and often eventually produce clinical tuberculosis. Thus, a period of years may intervene between the reinfection and the development of illness, a period that is not covered by the duration of the course in nursing. Therefore, bacilli sown while in training may result in serious disease years after students have graduated. In fact, Shipman and Davis have found that most of the nurses who developed clinical tuberculosis during training were positive reactors on entrance to the school.

"For any hospital to adopt the policy of admitting to its school of nursing only girls with positive tuberculin reactions, either consciously or unconsciously, would be to avoid the issue. Obviously, there would be no way to determine how much contamination that institution transmitted to its students. It would not be in a good position to solve its own problems.

"No hospital is on record as having adopted the policy of admitting to its school of nursing only girls with positive tuberculin reactions. Moreover, if the tuberculosis control program continues, such a hospital would soon find itself without student nurses, as the incidence of positive reactors, already low, is definitely decreasing among girls of the student nurse age. Since there is no possible way of securing a tuberculosis-proof nurse, the other alternative of providing as nearly as possible a bacillus-free environment for the nurse must be accepted.—*Jour. of the A.M.A.*, Dec. 22, 1934, p. 1968.

NEWS NOTES

AMERICAN MEDICAL ASSOCIATION HOUSE OF DELEGATES MEETING

The resolution in regard to health insurance, unanimously adopted by the House of Delegates of the American Medical Association at a special meeting in Chicago on February 15-16, and ratified by the Council of the Kansas Medical Society at a meeting in Topeka on February 24, is reproduced below. Individual copies of the resolution, of the minutes of the meeting of American Medical Association, and of the minutes of the Council meeting have been forwarded to county secretaries for distribution to members.

Your reference committee, believing that regimentation of the medical profession and lay control of medical practice will be fatal to medical progress and inevitably lower the quality of medical service now available to the American people, condemns unreservedly all propaganda, legislation or political manipulation leading to these ends.

Your reference committee has given careful consideration to the record by the Board of Trustees of the previous actions of this House of Delegates concerning sickness insurance and organized medical care and to the account of the measures taken by the Board of Trustees and the officials of the Association to present this point of view to the government and to the people.

The American Medical Association, embracing in its membership some 100,000 of the physicians of the United States, is by far the largest medical organization in the country. The House of Delegates would point out that the American Medical Association is the only medical organization open to all reputable physicians and established on truly democratic principles, and that this House of Delegates as constituted, is the only body truly representative of the medical profession.

The House of Delegates commends the Board of Trustees and the officers of the Association for their efforts in presenting correctly, maintaining and promoting the policies and principles, heretofore established by this body.

The primary considerations of the physicians constituting the American Medical Association are the welfare of the people, the preservation of their health and their care in sickness, the advancement of medical science, the improvement of medical care, and the provision of adequate medical service to all the people. These physicians are the only body in the United States qualified by experience and training to guide and suitably control plans for the provision of medical care. The fact that the quality of medical service to the people of the United States today is better than that of any other country in the world is evidence of the extent to which the American medical profession has fulfilled its obligation.

The House of Delegates of the American Medical Association reaffirms its opposition to all forms of compulsory sickness insurance whether administered by the Federal government, the governments of the individual states or by any individual industry,

community or similar body. It reaffirms, also, its encouragement to local medical organizations to establish plans for the provision of adequate medical service for all of the people, adjusted to present economic conditions, by voluntary budgeting to meet the costs of illness.

The medical profession has given of its utmost to the American people, not only in this but in every previous emergency. It has never required compulsion but has always volunteered its services in anticipation of their need.

The Committee on Economic Security, appointed by the President of the United States, presented in a preliminary report to Congress on January 17 eleven principles which that Committee considered fundamental to a proposed plan of compulsory health insurance. The House of Delegates is glad to recognize that some of the fundamental considerations for an adequate, reliable and safe medical service established by the medical profession through years of experience in medical practice are found by the Committee to be essential to its own plans.

However, so many inconsistencies and incompatibilities are apparent in the report of the President's Committee on Economic Security thus far presented that many more facts and details are necessary for a proper consideration.

The House of Delegates recognizes the necessity under conditions of emergency for federal aid in meeting basic needs of the indigent; it deprecates, however, any provision whereby federal subsidies for medical services are administered and controlled by a lay bureau. While the desirability of adequate medical service for crippled children and for the preservation of child and maternal health is beyond question, the House of Delegates deplores and protests these sections of the Wagner Bill which place in the Children's Bureau of the Department of Labor the responsibility for the administration of funds for these purposes.

The House of Delegates condemns as pernicious that section of the Wagner Bill which creates a social insurance board without specification of the character of its personnel to administer functions essentially medical in character and demanding technical knowledge not available without medical training.

The so-called Epstein Bill, proposed by the American Association for Social Security now being promoted with propaganda in the individual states, is a vicious, deceptive, dangerous and demoralizing measure. An analysis of this proposed law has been published by the American Medical Association. It introduces such hazardous principles as multiple taxation, inordinate costs, extravagant administration and an inevitable trend toward social and financial bankruptcy.

The committee has studied this matter from a broad standpoint, considering many plans submitted by the Bureau of Medical Economics as well as those conveyed in resolutions from the floor of the House of Delegates. It reiterates the fact that there is no model plan which is a cure-all for the social ills any more than there is a panacea for the physical ills that affect mankind. There are now more than 150 plans for medical service undergoing study and trial in various communities in the United States. Your

Bureau of Medical Economics has studied these plans and is now ready and willing to advise medical societies in the creation and operation of such plans. The plans developed by the Bureau of Medical Economics will serve the people of the community in the prevention of disease, the maintenance of health and with curative care in illness. They must at the same time meet apparent economic factors and protect the public welfare by safe guarding to the medical profession the functions of control of medical standards and the continued advancement of medical educational requirements. They must not destroy that initiative which is vital to the highest type of medical service.

In the establishment of all such plans, county medical societies must be guided by the ten fundamental principles adopted by this House of Delegates at the annual session in June, 1934. The House of Delegates would again emphasize particularly the necessity for separate provision for hospital facilities and the physician's services. Payment for medical service, whether by prepayment plans, installment purchase or so-called voluntary hospital insurance plans, must hold, as absolutely distinct, remuneration for hospital care on the one hand and the individual, personal, scientific ministrations of the physician on the other.

Your Reference Committee suggests that the Board of Trustees request the Bureau of Medical Economics to study further the plans now existing and such as may develop, with special reference to the way in which they meet the needs of their communities, to the costs of operation, to the quality of service rendered, the effects of such service on the medical profession, the applicability to rural, village, urban and industrial population, and to develop for presentation at the meeting of the American Medical Association in June model skeleton plans adapted to the needs of populations of various types.

Dr. Harry H. Wilson, Chairman, California.
Dr. Warren F. Draper, Virginia.
Dr. E. F. Cody, Massachusetts.
Dr. E. H. Carey, Texas.
Dr. N. B. Van Etten, New York.
Dr. F. S. Crockett, Indiana.
Dr. W. F. Braasch, Minnesota.

MEDICAL ECONOMICS COMMITTEE

On January 15, at the recommendation of Dr. J. F. Hassig, the Council voted approval of a Medical Economics Committee to serve as a fact finding body for study of all economic problems, and for recommendation on matters of economic policy. Members of the Committee were recently announced by Dr. Hassig, as follows:

Dr. F. L. Loveland, Topeka, chairman.
Dr. J. F. Gsell, Wichita.
Dr. W. N. Mundell, Hutchinson.
Dr. L. V. Dawson, Ottawa.
Dr. W. R. Dillingham, Salina.
Dr. Harry Lutz, Augusta.
Dr. O. W. Davidson, Kansas City.

First meeting was held at the office of Dr. Loveland on March 6, at which time plans were adopted for organization and procedure. A survey was directed to be

made among members as to foremost economic problems, and subjects of health insurance, indigent care, semi-indigent care, hospital pre-payment plans, and physician pre-payment plans were assigned for immediate research and study. Decision was made that a medical economics section shall be supervised in the Journal by the Committee. A motion was adopted that recommendation be made to county societies that each county appoint a medical economics committee to work in connection with the Society Committee. Next meeting will be held in Topeka, on March 24.

CAHAL INJURED

Mac Cahal, executive secretary of the Sedgwick County Medical Society, was painfully injured in a motor accident near Topeka on February 26. The car in which he was riding skidded on icy pavement and turned over several times, killing one person and injuring the other three occupants. Cahal suffered a slight concussion and a fractured shoulder but is recovering nicely.

LEGISLATION

The following, as we go to press, is the latest available summary of disposition made, or present status, of bills in the legislature affecting organized medicine, and in which the Legislative Committee of the Society has been active.

Since adjournment sine die is contemplated within the next few days, bills pending in committees of house of origin, or on calendar of house of origin are not conceded much opportunity for passage. Bills pending in the opposite house may or may not be reached before adjournment.

House Bills:

HB4—Establishing old age pensions, but permitting counties to provide medical care in addition to payment of pensions. Killed by the House.

HB22—A codification of narcotic acts proposed by the Federal Government, and introduced by the Legislative Council and certain Federal officials. Opposed by the Society on grounds that it did not insure that a license to practice medicine in this state would include a narcotic permit, as it purported to control amounts to be prescribed by physicians, and as it enforced little or no regulation on patent medicines. Killed by the House.

HB37—An act providing for recovery of payment from inmates of state hospitals who are financially able to pay. Passed by House and pending in Senate.

HB55—Relating to dentists, and clarifying the legal definition of dentistry in this state. Amended upon suggestion of the Legislative Committee to except physicians, inasmuch as the original draft restricted treatment of diseases and malformations of the jaws and mouth to dentists. Passed by House and Senate.

HB229—An act enabling privilege taxes measured by gross receipts, and including the professions. Pending in a House Committee.

HB275—Providing \$5000.00 annually to Fort Hays College for clinical facilities in connection with psychological study of unusual and abnormal children. Killed by the House.

HB301—A community hospital bill carrying a clause

that hospitals built under this act shall be open to any healers licensed to practice in this state. Killed by the House.

HB357—Enabling funds for the State Board of Health to establish infantile paralysis depots in different portions of the state for convenience and accessibility of physicians. Passed by both the House and Senate, and signed by the Governor.

HB366—A bill requiring that itinerant vendors of medicine secure annual licenses from the secretary of state and establishing a fee of \$50.00 per year. Pending in the House.

HB408—A bill requiring that only certain healers may use the title "Doctor" and that they must qualify its use by showing their healing degrees or name of their profession. Although the Legislative Committee could not actively lobby the bill, it reached third reading, and was killed by two votes through telegrams of physio-therapists and naturopaths who were not included.

HB426—Establishing a state welfare and security department to operate the national social security program. Killed by the House.

HB464—The same bill as HB301 returned as a local bill but still providing that any licensed healer may be admitted to such community hospitals. Killed by the House.

HB452—Granting the State Board of Health authority to demand changes in city supplies of water where they are deemed to be unhealthy. Pending in the House.

HB434—Permitting county commissioners in counties between 110,000 and 135,000 population to operate hospitals for indigents. Killed by the House.

HB471—Same bill as HB275, except with slight changes enabling re-introduction. Pending in the House.

HB502—Authorizing two or more counties to establish joint hospitals, etc., for care of the poor. Killed by the House.

HB624—A bill providing substantial increase in rates to taxation on income. Killed by a committee in the House.

HB540—Relating to public health and registration of births and deaths. Passed by House and pending in Senate.

Senate Bills:

SB13—A companion bill to HB21 providing for a state planning board. Killed by the Senate.

SB14—Appropriation to the University Medical School for a new colored ward and a warehouse. The bill was coincided with SB438.

SB22—A companion bill to HB22 establishing a uniform narcotic act. Pending in a Senate committee.

SB31—A basic science act. Pending in the Senate.

SB63—Providing for a health certificate before marriage from "a doctor of human medicine" who shall examine the "sputum and blood" for venereal infection for a "fee of three dollars." Pending in the Senate.

SB86—Old age pension which did not except medical care. Pending in a Senate committee.

SB89—Appropriation for a new building at Norton Sanitarium. This bill was coincided with SB438.

SB94—Companion bill to HB55, and combined with that bill.

SB192—An appropriation for School for Deaf at

Olathe providing additional building. Combined with SB438.

SB147—An appropriation of additional building for State Hospital for Epileptics at Parsons. Combined with SB438.

SB267—Establishing a privilege tax measured by gross receipts, and including professions. Killed by the Senate.

SB280—Partial revision of the workmen's compensation act affecting medicine only in reduction of liability from \$400.00 to \$300.00. Pending in a Senate committee.

SB296—Creating a public welfare board for administration of social security legislation. Pending in a Senate committee.

SB319—Amending present poor laws to more definitely include hospital service for indigents. Passed by Senate and pending in House.

SB359—A companion bill to local community hospital provision in HB464. Also, extends right of practice to all legalized branches of healing. Pending in a House committee and amendment to be considered that the hospital trustees shall be privileged to select a staff or admission requirements.

SB371—A companion bill to HB37 permitting recovery of money from inmates of state hospitals who are financially responsible. Killed by the Senate.

SB411—A companion bill for HB471 enabling psychological clinics for Fort Hays College. Passed by Senate and pending in the House.

SB438—Combining new building appropriations for certain state schools and hospitals, and granting: \$250,000 in 1936 and 1937 to Norton Sanitarium, \$150,000 in 1936 and 1937 to the University Medical School, \$95,000 in 1936 and 1937 to the Parsons State Hospital, and \$250,000 in 1936 and 1937 to the Larned State Hospital. Pending in the House.

COUNCILOR DISTRICTS

For the benefit of all society members we are printing a list of the counties making up the councilor districts and the councilor in charge, as follows:

District I—Councilor, R. T. Nichols, M.D., Hia-watha. Atchison, Brown, Doniphan, Jackson, Jefferson, Marshall, Nemaha, Pottawatomie, Riley.

District II—Councilor, L. F. Barney, M.D., Kansas City. Anderson, Coffey, Douglas, Franklin, Johnson, Leavenworth, Linn, Miami, Wyandotte.

District III—Councilor, E. C. Duncan, M.D., Fredonia. Allen, Bourbon, Cherokee, Chautauqua, Crawford, Elk, Labette, Montgomery, Neosho, Wilson, Woodson.

District IV—Councilor, O. P. Davis, M.D., Topeka. Chase, Geary, Lyon, Morris, Osage, Shawnee, Wabau-see.

District V—Councilor, J. T. Axtell, M.D., Newton. Harvey, Kiowa, Marion, McPherson, Pratt, Reno, Rice, Stafford.

District VI—Councilor, H. N. Tihen, M.D., Wichita. Barber, Butler, Clark, Comanche, Cowley, Greenwood, Harper, Kingman, Sedgwick, Sumner.

District VII—Councilor, C. C. Stillman, M.D., Morganville. Clay, Cloud, Jewell, Mitchell, Osborne, Republic, Rooks, Washington.

District VIII—Councilor, Alfred O'Donnell, M.D., Ellsworth, Dickinson, Ellsworth, Lincoln, Ottawa, Saline.

District IX—Councilor, H. O. Hardesty, M.D., Jennings. Cheyenne, Decatur, Norton, Phillips, Rawlins, Sherman, Smith, Thomas.

District X—Councilor, C. D. Blake, M.D., Hays. Ellis, Gove, Graham, Logan, Russell, Sheridan, Trego, Wallace.

District XI—Councilor, C. H. Ewing, M.D., Larned. Barton, Edwards, Greeley, Hodgeman, Lane, Ness, Pawnee, Rush, Scott, Wichita.

District XII—Councilor, N. E. Melencamp, M.D., Dodge City. Finney, Grant, Gray, Hamilton, Haskell, Kearny, Meade, Morton, Seward, Stanton, Stevens.

DEATH NOTICES

Dr. W. E. Hare, 74 years of age, died from a heart attack at his home in Garnett, February 10. He had the distinction of changing from one profession to another in the middle period of his life. He was born in 1860, in Ashland, Ohio, was brought to Cameron, Mo., and here began a newspaper career. He advanced until he was editor of his newspaper, and then turned to medicine, financing his schooling by serving as a railway mail clerk, studying at the Kansas City College of Medicine and graduated from there in 1910. After practicing a short time in Kansas City, he moved to Little Rock and in 1917 went to Garnett to start a practice, which he continued, in spite of failing health, up to the time of his death.

MEMBERS

Dr. W. G. Chestnut, Galena, has moved to Miami, Florida, where he will continue his practice with Dr. M. M. DeArmon, in the Miami Clinic.

Dr. W. R. Dillingham, Salina, was appointed as county physician and health officer of Saline county.

At a special meeting of the Board of County Commissioners at Herndon in January, Dr. A. P. Fleckenstein, Herndon, was named as county health officer for the coming year.

Dr. Fred Gasser, Cherryvale, was recently appointed to lieutenant colonel in the medical corps of the United States Army.

Dr. L. E. McFarlane and Dr. Belle Little, Manhattan, have announced that Dr. W. C. Schwartz, Manhattan, will join their offices.

Drs. O. U. Need, Jr., Oak Hill, and Richard Stewart, Morganville, were recently elected to membership in the Clay County Medical Society.

The appointment of Dr. H. B. Talbot, Topeka, to succeed the late Dr. A. B. Jeffrey, as medical director of the National Reserve Life Insurance Company has been announced and was effective March 1.

Dr. H. R. Wahl and Dr. F. C. Neff, University of Kansas, have returned from an inspection visit of hospitals in Indianapolis, Pittsburg, Cincinnati, Philadelphia, Rochester, Ann Arbor, and Iowa City. The inspection was prior to plans being made for a new children's building adjoining Bell Memorial Hospital in Kansas City.

Dr. E. C. Wickersham, Independence, has the dis-

tion of holding the office of county health officer of Montgomery county for twenty-two years. He received the appointment in 1907 and has served since then, except for four years between 1913 and 1917.

COUNTY SOCIETIES

The Brown County Medical Society held two meetings during February. On February 1, Dr. J. F. Hassig, Kansas City, was a speaker on economic problems, and Dr. P. M. Krall, University of Kansas, spoke on "Some Aspects of the More Common Cardiac Conditions in the Light of the Newer Knowledge of Physiology and Pharmacology." Guests were present from Nemaha and Doniphan counties, Kansas; Richardson county, Nebraska; and St. Joseph, Mo. Dr. C. E. Waller, Troy, president of the Doniphan County Medical Society, Dr. Sam Murdock, Jr., Sabetha, secretary of the Nemaha County Medical Society, Mrs. H. J. Minor, president of the Nebraska Auxiliary, Dr. J. M. Green, Richardson, Nebraska; and Mrs. Paul Conrad, president of the Brown County Auxiliary, were introduced and made brief talks. On February 22, another meeting was held in Hiawatha consisting of a program of scientific and economic subjects.

Members of the Butler-Greenwood County Medical Society held their regular monthly meeting on February 8 in El Dorado. The guest speaker was Dr. Ray M. Balyeat, of the Balyeat Hay Fever and Asthma Clinic, of Oklahoma City, Okla., who gave a paper on "The Treatment of Intractable Asthma." He showed a number of slides in connection with the lecture. Dr. Henry N. Tihen, Wichita, also a speaker at the meeting, discussed activities of the Council.

At a meeting of the Central Kansas Medical Society on January 31 in Ellsworth, Dr. C. C. Conover, Mr. E. R. Dewese, Dr. Ralph R. Wilson, and Dr. M. J. Wilson of Kansas City, Mo., and Dr. G. E. Stafford, Salina, were the guest speakers, following a dinner for physicians and their guests.

Dr. F. R. Croson, Clay Center was elected secretary, to fill the unexpired term of Dr. E. C. Morgan. Clay Center, due to his illness, at the regular February meeting of the Clay County Medical Society in Clay Center. Dr. E. N. Martin, Clay Center, gave a report on the work done for the indigents. Following the business meeting, Dr. L. S. Nelson, Salina, talked on "Treatment of Skull Fractures," and Dr. O. D. Brittain, Salina, gave an illustrated talk with slides on "Unusual Conditions Affecting the Knee Joint."

The dinner meeting of the Crawford County Medical Society was held on January 3 in Pittsburg, with Dr. Ray M. Balyeat, Oklahoma City, and Dr. L. S. Nelson, Salina, as guest speakers. Dr. Balyeat spoke on "New Methods of Determining Etiology and Treatment in Intractable Asthma" and illustrated with slides. Dr. Nelson spoke on, "The Transperitoneal Caesarean Section."

Newly elected officers for the Douglas County Medical Society to serve for the coming year are: Dr. R. H. Edminston, Lawrence, president; Dr. V. M. Auchard, Lawrence, vice-president; Dr. W. O. Nelson, Lawrence, secretary; Dr. E. M. Owen, Lawrence, treasurer; Dr. H. L. Chambers, Lawrence, and Dr. L. S. Powell, delegates to the state meeting.

The Ford County Medical Society held their monthly meeting February 8, in Dodge City, with a dinner fol-

lowed by a program on which Dr. W. R. Dillingham, Salina, was the guest speaker. His subject was "Hemorrhoids."

The doctors' wives were guests for dinner at the regular meeting of the Harvey County Medical Society on February 4, after which the doctors adjourned for their meeting and the wives were entertained by a talk given by Mrs. E. J. Nodurft, Wichita, of the Sedgwick Medical Auxiliary.

Dr. J. E. Breed, Chicago, was the guest speaker at the meeting of the Labette County Medical Society on February 15. He gave a talk on "Recent Advancement of Radium."

Members of the Lyon County Medical Society held a meeting on February 5 in Emporia, with Dr. W. R. Dillingham, Salina, as the guest speaker. His subject was "The Diagnosis and Treatment of Rectal Diseases."

Dr. W. J. Stewart was elected president of the Marshall County Medical Society at their meeting in January. Dr. B. W. Lafene, Marysville, vice-president, and Dr. Henry Haerle was re-elected secretary-treasurer. Guest speakers were Dr. W. R. Dillingham and Dr. George Britton, Salina.

A joint meeting of the Montgomery County Medical Society and auxiliary was held in Cherryvale, on February 15. The purpose of the meeting was to discuss pending legislation concerning qualifications for practicing the healing art in Kansas. Dr. Ralph S. Casford, Sedan, gave a paper on "Oxygen in the Treatment of Pneumonia," and Drs. E. C. Duncan, and F. M. Wiley, Fredonia, were additional guests. Dr. Duncan gave an address on "Public Welfare."

The name of the Decatur-Norton County Medical Society was changed to the Northwest Kansas Medical Society at a meeting during February in Norton. The meeting lasted from 9:00 a.m. to 7:00 p.m., and numerous sessions were held throughout the day on Chest Fluoroscopes and Pneumothorax; Minimal, Moderately Advanced, Far Advanced and Childhood Type Tuberculosis Cases, all of which were discussed during the morning program, presented by Dr. Phillip Cohn and Dr. C. F. Taylor, respectively. During the afternoon Dr. C. O. Giese, president of the Rocky Mountain Tuberculosis Conference, presented two papers: "Pneumothorax in Lobar Pneumonia," and "Primary Carcinoma of the Lung." Dr. C. F. Taylor, newly elected president of the society, gave a talk on "Methods of Building a Diagnosis of Tuberculosis." Other officers elected for 1935 were: Dr. Edward F. Steichen, Lenora, first vice-president; Dr. V. C. Eddy, Colby, second vice-president; Dr. Phillip Cohn, Norton, secretary-treasurer; Dr. C. F. Taylor, delegate to the state meeting.

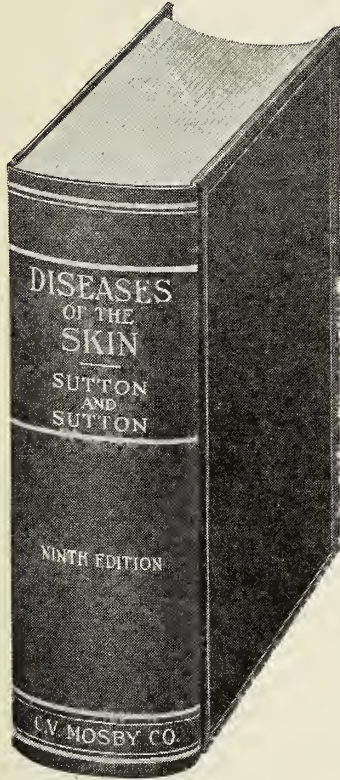
Dr. Athol Cochran, Pratt, was elected president of the Pratt County Medical Society in Pratt at the February meeting; Dr. Herbert Atkins, Pratt, as vice-president, and Dr. E. M. Ireland, Coats, secretary-treasurer.

Dr. Henry N. Tihen and Dr. Fred McEwen, Wichita, were the guest speakers on the program of the Saline County Medical Society on February 14, in Salina. Announcements concerning the state meeting were made as to the program and forms of entertainment.

The new officers elected to serve for 1935 in the Stafford County Medical Society are as follows: Dr. C. S.

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SUTTON'S DISEASES OF THE SKIN



AN EMINENT Eastern specialist on diseases of the skin once eloquently referred to Dr. Richard L. Sutton as "a walking encyclopedia of dermatological information."

Not all of us are privileged to attend the lectures and clinics of so outstanding a man of science, but fortunately we have ready access to the record of his wisdom and industry preserved in the pages of this great textbook on dermatology and syphilis.

For nearly two decades this volume has served the medical profession of the world.

As a famous reviewer in the *Archives of Dermatology and Syphilis* has said: "It is encyclopedic and scholarly. It has the spirit of an enthusiastic devotee of a specialty, and it has the vigor and piquant spirit that are Sutton. There is no need to advise dermatologists or other physicians that it should be on their shelves. They have already decided that for themselves, and in one edition or another it is found everywhere."

The *London Lancet*, that most conservative of publications, refers to it as "world famous," and the *British Journal of Dermatology* as "an atlas of skin diseases."

The volume is well balanced, and evenly written. The clinical descriptions are complete, and the matter of differential diagnosis is given the attention it deserves. Sound and proved methods of treatment are suggested. The prescriptions recommended are those which have stood the test of time. The collection of photomicrographs is one of the finest ever published.

In the ninth edition the author has requisitioned the services of his son, Richard L. Sutton, Jr., A.M., B.S., M.D., L.R.C.P. (Edin.), who is also a teacher in the University of Kansas School of Medicine, and who was his collaborator in the popular and widely used text, "AN INTRODUCTION TO DERMATOLOGY."

Descriptions of more than a score of newly recognized diseases are included, and the literary references have been brought up to the summer of 1934.

Half a hundred new illustrations have been added, many of them portraying disorders that have never before been included in any textbook.

Needless to say, the present volume is one which is bound to meet with universal appreciation and approval.

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The C. V. Mosby Company, Publishers, 3523 Pine Blvd., St. Louis, U. S. A.

Adams, Macksville, president; Dr. F. W. Tretbar, Stafford, vice-president; Dr. J. J. Tretbar, Stafford, secretary-treasurer.

Members of the Sumner County Medical Society held a dinner and meeting in Wellington during January and in the program following Dr. Karl E. Voldeng, Wellington, and Dr. E. S. Edgerton, Wichita, were the guest speakers. Plans are being made to organize an auxiliary to the society.

The regular meeting of the Washington County Medical Society was held February 18 in Washington. A discussion of the Basic Science law was held and the secretary's report on business was read. A talk by Dr. H. D. Smith, Washington, on "Disturbance of the Thyroid Gland," was the principal part of the program.

Members of the Wilson County Medical Society met for dinner at the White Way Coffee Shoppe in Fredonia on February 11 adjourning to the home of Dr. W. H. Young for the business meeting. A discussion of the basic science law was held. The society will not meet during March as the meeting of the Southeast Kansas Medical Society at Coffeyville occurs during that month.

Meetings of the Wyandotte County Medical Society in Kansas City for the month of February are as follows: on February 6, Dr. L. E. Grownney, Kansas City, gave a talk on "A Statistical Report of the Care of the Indigent Sick of Wyandotte County for the Year 1934;" on February 12, a joint meeting with the staffs of Bethany, Providence and St. Margaret's hospitals was held all during the day; papers were given by Drs. L. G. Allen, P. M. Krall, M. J. Owens, Leslie Leverich, L. B. Spake, of Kansas City, and Carroll M. Pounders, guest speaker from Oklahoma City, Okla., during the morning session; during the afternoon Dr. Sam H. Snider, and Dr. F. E. Angle, of Kansas City, and Dr. Pounders gave talks; on February 20, Dr. L. E. Grownney, talked on "Pain in Differential Diagnosis of Abdominal Conditions: Representative Cases."

OPTICAL CODE

The following letter from the Bureau of Legal Medicine and Legislation of the American Medical Association will be of interest to physicians who have recently received notice that they are required to join the Optical Retail Trade Code:

"A letter addressed 'To Oculists and Physicians Dispensing Ophthalmic Products' has recently been sent out by the Optical Retail Trade Code Authority, 7 East Forty-fourth Street, New York, N. Y. The letter alleges that 'physicians selling glasses or servicing prescriptions' come fully within the scope of the Optical Retail Code. The letter has been accompanied or followed by a demand by the Optical Retail Trade Code Authority that the physician to whom it is addressed fill out a questionnaire relative to the nature and extent of the physician's optical business and pay assessments amounting to \$3.00 for each employee in his service. The assessment is for the support of the Optical Retail Trade Code Authority, a trade organization.

The Optical Retail Trade Code Authority, by which these demands have been made, is organized under the National Industrial Recovery Act. The National Industrial Recovery Act does not purport in any way to regulate or control the practice of medicine. It specifically relates to "industry" and "trade" and to industrial and trade associations or groups. It relates only to transactions in or

affecting interstate or foreign commerce. Under no provision of the act can a physician who confines his work to rendering professional medical services be subjected to any provision of the code or to any assessment under the code.

A person who on his own account commercially buys and sells eyeglasses and spectacles and makes a commercial profit on the transaction is presumably within the purview of the Optical Retail Trade Code, even though he happens to be a physician. It is believed, however, that a physician who buys and sells eyeglasses and spectacles only as the agent of patients for whom he prescribes them and without making any commercial profit on the transaction is not within the terms of that code. The fact that a physician charges for his professional services in prescribing and fitting glasses and spectacles does not alter the situation.

The American Medical Association has protested against the attempt of the Optical Retail Trade Code Authority to bring physicians as such within the scope of the code that it administers. Pending the adjustment of those protests, physicians who are engaged in strictly professional work are advised to refrain from answering the questionnaire that the Optical Retail Trade Code Authority has sent to them and to refrain from paying the attempted assessment for the support of that Code Authority. The outcome of the protest will be promptly reported in *The Journal*."

TWENTY-FIVE YEARS AGO

The meeting of the State Society will be held in Topeka May 4, 5 and 6. Some of the entertainment features will be, a reception at the Governor's mansion, luncheon at the Commercial Club, a special performance of the North Stock Company at the Majestic Theater and "automobile drive over the city, according to the weather."

That the economic problems of the practice of medicine are not new is well brought out by the editor. "These institutions for which the doctor slaves without pay are not controlled by him, dependent as they are upon him for their support, but by a board of laymen." . . . "It cannot be long before the manifest absurdity of our present condition of bondage will become patent to all."

Governor W. R. Stubbs has established a fellowship at University of Kansas to investigate the possibility of extracting substances from the ductless glands of deep sea mammals which might be of value in medicine. The holder of the fellowship will do preliminary work at the University and will then go to Labrador to study material which Dr. Grenfell has obtained.

The department of pathology of the University of Kansas has arranged to keep on hand "the serum which has been found useful in the treatment of epidemic cerebrospinal meningitis." The serum cannot be purchased on the market and can be obtained only from Dr. Flexner himself and then only on condition that it be given by someone trained in his laboratory.

BOOK REVIEWS

THE HEART VISIBLE. A Clinical Study in Cardiovascular Roentgenology in Health and Disease. By J. Polevski, M.D., attending physician and cardiologist, Newark Beth Israel Hospital. F. A. Davis and Co., Philadelphia, Publishers. Price \$5.00.

This book very thoroughly covers a little written-in field. Autopsies all too frequently are very carelessly done,

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CRUM EPLER, M.D.
Superintendent

insofar as observing relationships in and about the heart and great vessels are concerned, and certainly relationships are of prime importance in roentgenographic interpretation. It is not yet universally known to physicians what a tremendous amount of information may be obtained from x-ray studies in cardiovascular conditions. One cannot over-emphasize the fact that a careful fluoroscopic examination by a qualified roentgenologist is almost equivalent to a dissection.

This book of one hundred eighty pages goes into a very careful and extensive description of the normal and pathological heart, as seen in roentgenological examinations, and could well be in the hands of every practitioner of medicine, as well as of every roentgenologist, and as books go in these days, the price is very reasonable when one considers the wealth of material contained, and the very excellent description.—A.K.O.

CLINICAL LABORATORY METHODS. Pauline S. Simmitt 148P. F. A. Davis Co., Philadelphia, Pa.

A small book covering a portion of most clinical laboratory tests, yet not exhaustive enough to be of value to the technician. The cuts are taken from other books. Chapters on urine, blood, sputum, feces, are accurate but are limited. The book will serve a place for one desiring a limited practical guide but no interpretations are presented.—J.L.L.

NEW BOOKS RECEIVED

MEMOIRS OF A SMALL TOWN SURGEON by John Brooks Wheeler, professor of surgery, University of Vermont. Published by Frederick A. Stokes Company at \$3.00 per copy.

THE 1934 YEARBOOK OF OBSTETRICS & GYNECOLOGY by Dr. Joseph B. DeLee, professor of obstetrics, University of Chicago Medical School, and Dr. J. P. Greenhill, associate professor of gynecology, Loyola University Medical School, Chicago. Published by the Year Book Publishers, Chicago, at \$2.50 per copy.

STAMMERING & ALLIED DISORDERS by Dr. C. S. Bluemel. Published by the Macmillan Company, New York, at \$2.00 per copy.

HUGHES' PRACTICE OF MEDICINE. Fifteenth edition revised and edited by Dr. Burgess Gordon, associate professor of medicine, Jefferson Medical College. Sections by Dr. Harold D. Palmer and Dr. Vaughn C. Garner. Published by P. Blakiston's Son & Co., Inc., Philadelphia, at \$5.00 per copy.

THE 1934 YEARBOOK OF EYE, EAR, NOSE, THROAT by Dr. E. V. L. Brown, Chicago; Dr. Louis Bothman, Chicago; Dr. George E. Shambaugh, Chicago; Dr. Elmer W. Hagens, Chicago; and Dr. George E. Shambaugh, Jr., Chicago. Published by the Year Book Publishers, Chicago, at \$2.50 per copy.

DIETICS FOR THE CLINICIAN by Milton Arland Bridges, director of medicine, department of correction hospitals, New York. Published by Lea & Febiger, Philadelphia, Pa., at \$10.00 per copy.

THE 1934 YEARBOOK OF DERMATOLOGY AND SYPHILOLOGY by Dr. Fred Wise, professor of clinical dermatology and syphilology, New York, and Dr. Marion B. Sulzberger, associate in dermatology and syphilology, New York. Published by the Year Book Publishers, Chicago, at \$3.00 per copy.

THE DECEMBER 1934 INTERNATIONAL CLINICS, VOL. IV. Forty-fourth series. Published by J. B. Lippincott Company, Philadelphia, Pa.

MORBIDITY REPORT

New communicable disease cases in the state as compared with last month are reported by the Kansas State Board of Health as follows:

Disease	Month ending February 16	Month ending January 19
Measles	4151	1649
German Measles	1553	398
Chickenpox	538	684
Mumps	492	279
Scarlet Fever	427	414
Pneumonia	387	480
Whooping cough	225	197
Influenza	200	52
Syphilis	131	90
Gonorrhea	74	41
Tuberculosis	57	56
Diphtheria	40	49
Smallpox	28	8
Meningitis	12	6
Typhoid fever	5	8
Cancer	4	8
Vincent's angina	3	2
Tularemia	3	12
Undulant fever	2	5
Encephalitis	2	4
Pink-eye	1	5
Poliomyelitis	1	0
Tetanus	0	1
Scabies	0	2
Rabies	0	0

KANSAS MEDICAL AUXILIARY

The members of the Brown County Medical Auxiliary held a brief business meeting on February 1 in Hiawatha for the election of officers. Those elected to serve during the coming year are: Mrs. J. R. Heryford, Fairview, president; Mrs. Gordon Emery, Hiawatha, vice-president; Mrs. J. L. McEwen, Morrill, second vice-president; Mrs. Paul E. Conrad, Hiawatha, secretary; Mrs. L. W. Shannon, Hiawatha, assistant secretary; Mrs. E. K. Lawrence, Hiawatha, treasurer; Mrs. E. J. Leigh, Hiawatha, reporter.

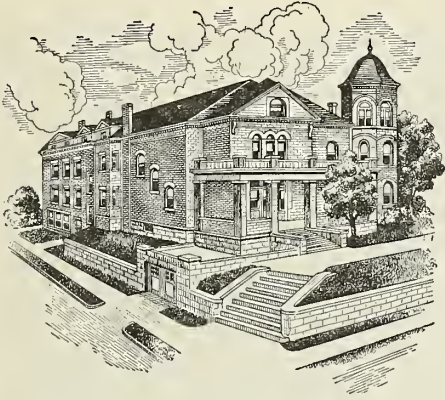
The newly organized Ford County Auxiliary had dinner and a business meeting in Dodge City on February 8.

The annual meeting of the Board of the Women's Auxiliary to the Kansas Medical Society was held in Kansas City, Kansas, January 24. Members present were Mesdames Emery, Nyberg, Hunter, Conrad, Nodurft, Coffey, Gloyne, Duncan, Carter, Urie, West, Spray and O'Donnell. The meeting was called to order by Mrs. W. G. Emery, president, and all reports from the county auxiliaries were given, those not represented at the meeting having sent written reports, and all indicated increased interest and activity. Mrs. Nodurft gave a report of the Cleveland convention. Mrs. Emery reported the business of the National Board meeting held in Chicago. Announcement was made of the organization of an auxiliary in Ford county.

(Continued on Page 128)

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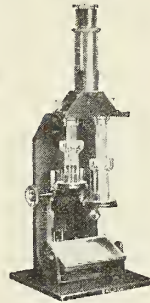
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Following the business session, the Wyandotte Board of Directors entertained the visiting ladies at a luncheon, directly followed by a musical tea given by the Wyandotte County Auxiliary.

The Labette County Auxiliary held their first meeting of this year on February 1 at the home of Mrs. M. C. Ruble in Parsons. Election of officers was held following the regular business meeting and those elected were: Mrs. N. C. Morrow, president; Mrs. L. A. Proctor, vice-president; Mrs. J. D. Pace, secretary-treasurer; and Mrs. T. D. Blasdel, president-elect. A vote was taken to assist at the crippled children's clinic the last of February. Next meeting will be on March 24, at the home of Mrs. T. D. Blasdel, Parsons.

A Sweetheart Party marked the regular meeting of the Sedgwick County Medical Auxiliary on February 16 at the Wichita Country Club, at which both members and their husbands were entertained. The song "Let Me Call You Sweetheart" opened the evening's program and a floor show was given by members of a local school of dancing. Mrs. J. F. Mummery then read a Valentine fantasy. The remainder of the evening was spent in playing bridge and later refreshments were served.

ANNOUNCEMENTS

The Annual Meeting of the American Association on Mental Deficiency will be held at the Hotel Palmer, Chicago, April 25, 26 and 27. All physicians are invited to attend the sessions on those dates. Complete data on the program may be obtained from the secretary, Dr. Groves B. Smith, Godfrey, Ill.

The mid-west sectional meeting of the American College of Surgeons was held in Kansas City, Mo., on March 12-13, with headquarters at the Hotel President. The following states were included in this section: Missouri, Kansas, Arkansas, Iowa, Nebraska, Oklahoma, and Colorado. The meetings opened Tuesday, March 12, at 8:00 a.m. and closed on Wednesday evening at 10:00 p.m.

Among the distinguished visitors present were: Dr. F. H. Martin, Chicago; Dr. Irvin Abell, Louisville; Dr. A. W. Adson, Rochester; Dr. F. W. Bancroft, New York; Dr. F. A. Besley, Waukegan; Dr. George Grile, Cleveland; Dr. R. B. Greenough, Boston; Dr. LeRoy Long, Oklahoma City; Dr. C. L. Scudder, Boston; Dr. Waltman Walters, Rochester; Dr. M. T. MacEachern, Chicago; Dr. M. M. Newquist, Chicago; and Robert Jolly, Houston.

EXCHANGES

"THE JOURNAL OF THE KANSAS MEDICAL SOCIETY appeared in January with a new cover design. It is beautiful, neat and attractive. A stethoscope is used to represent medical art instead of the heathenish snake. The society is to be congratulated on its choice. The contents of the journal are high class, as they always have been."—Medical Review.

A friend of a Hays physician congratulated him on performing, successfully, a delicate operation. "Doctor," the friend remarked, "hospital attendants and two other doctors told me you deserved much credit for your successful operation on the patient who was expected to die and who now is well on the road to recovery." The surgeon shook his head. "I wouldn't say that," he answered.

"And why not?" asked his friend. "An operation," was the reply, "is not a complete success until it is paid for." —Hays Daily News, Hays, Kansas.

Physicians can sympathize with Ohio's hospitals whose financial plight is acute, largely because of the enormous charity load they have been forced to carry during the past few years.

With respect to hospitalization, the situation is more acute. Many hospitals are receiving nothing for services to the poor. Unless the community in which the institution is located has funds available and is willing to spend them for hospitalization, the hospital is in most instances out of luck. Under present regulations, state and federal money cannot be allocated for hospitalization.

The hospital's plight is accurately stated in the following comment in a recent issue of *The Modern Hospital*:

"The workings of the minds of governmental bureau heads are often difficult of comprehension. An unfortunate family is allocated three or four dollars a week for the purchase of the bare necessities of life. The physician is permitted to charge a small fee for an office visit and a slightly larger one for treatment in the home. The druggist is paid for medicines.

"But the bronchitis becomes now a pneumonia and the aid of the hospital is necessary. An ambulance is almost immediately at the door, a bed in a well ventilated room, the services of one or more nurses, expensive drugs, six or seven dollars a day for oxygen, all are quickly and uncomplainingly supplied by the hospital. The family dole goes on except that now one less person must be fed, housed and clothed.

"The governmental officials give their acquiescence and approval to all these institutional efforts and expenditures to save life, but that is all. They smugly assert that such is but the hospital's duty. It would be afraid not to continue this fine tradition of gratuitous service. In plain words, the relief bureau is willing to provide the barest necessities to maintain the life of the needy family, it pays something to the doctor and the druggist. But its financial interest ceases when illness multiplies many times the expense of caring for one of its members. It practically challenges the hospital to make the best of it and to refuse, at its peril, to accept the financial burden thus imposed.

"If hospitals generally would take a firm and concerted stand on this matter, smugness might change to a desire for fair play, and financial justice to the institution would be done."

Obviously, the situation in which hospitals find themselves can't go on indefinitely. Many hospitals are desperately in need of help in carrying their charity cases. They should have it.

Although the medical profession has its hands full trying to solve its own problems, including the poor relief problem, it should not ignore the situation confronting the hospitals and should join with the hospitals in an effort to obtain some relief for those institutions.

Whatever changes may be made in relief programs should not include any move to shift the responsibility for the care of the sick poor from government to the medical profession or to continue to let the hospitals shoulder the burden of hospitalization of those on relief. —From *The Ohio State Medical Journal*.

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No one who has given even meager thought to unpredictable accidents to person or property denies the fact that insurance is the best protection. This the medical profession freely admits. But when compulsion, either by government or organization, is attempted, multiplication of employees and executives, the machinery of operation, occurs so rapidly that, despite all theory to the contrary, practical experience proves a rapidly increasing cost, which in the event of government means increased taxes.

Insurance of soldiers during the great war did not prove a wise adventure as a government activity. Is there any reason to believe that any government-sponsored insurance would be any different?

Have you considered your personal reaction to outside control, limitation of your choice of any personal service affecting you or your family?

Or have you considered your own reaction to outside control, limitation, or your own personal service to others?

Do you want any one, or group, to act under law in any intermediary way between you and your spiritual adviser, your legal adviser, your medical adviser?

Ninety-nine per cent of health and sanitary legislation has been initiated by physicians, and literally pushed down the throats of the public by the medical profession to the detriment of the physician's income.

From time immemorial, physicians have cared for the poor, the unfortunate, and those of limited means, all without recompense, and apparently in the light of today without thanks. The medical profession can still be counted upon to continue the same labor in the future as in the past.

If the schemes of Europe are so far superior to our methods, why is not mortality and morbidity decreased far below ours? The facts are, their mortality is no lower than ours, and their morbidity is higher.

If our present scheme of health care is so in need of change, why has the span of life been so increased? Why the threat by laymen that if physicians themselves do not change the scheme, the government will?

Is all the advancement in medicine and health care in the past fifty years, twenty-five years, yes, even the past twelve months, of so little import in the minds of those who are alive today because of medical science, that they desire in their ignorance to control that of which they know nothing?

Let the medical profession alone. It is the most altruistic, the most far-seeing, the most unselfish, the most hard-working, the most humane group of individuals the world has ever known. Attempt from the outside to control the physician, to fetter him, to direct him, and he becomes self-interested, self-centered, and defensive. Who suffers? Everyone; but the public most.—From *The Journal of the Indiana State Medical Association*.

That when a doctor sends a bill to a fellow for \$50 for two weeks' treatment, pulling him through a critical case of pleuro-pneumonia, he hollers for the police—and when the lawyer sends him a bill for the same amount for one hour's appearance in court he thinks he's getting off cheap?

That when a plumber, butcher, baker or milkman jumps into a creek or salt meadow to save an old soak from drowning himself, the papers hail him as a hero and Congress presents him with a life-saving medal—and when the doctor, through the use of brain and trained skill of a highly specialized order, working night and day,

saves the life of a useful citizen, it is considered just a duty done and no hero medal is awarded, or even mention made of the incident?

That when the tired doctor, seeking needed relaxation like other folks, steals away for a few hours from his office to go to a show, or for a week-end in the country, he is grilled and toasted for neglecting his patients—and when a preacher, a lawyer, an engineer or any other professional man does the same thing, not an unfriendly word is said or unfriendly criticism made of the circumstance?

That when a baby is named by an appreciative mother after the family physician who brought it into the world, folks snicker, shrug their shoulders suspiciously and whisper, "I told you so"—and when it is named after a politician, soldier, captain of industry or a banker, it is accepted as a matter of course and no though of suspicion is ever excited over the incident?

That when a fellow owes money to his doctor, he assumes an injured feeling when pressed to pay—and when pressed by his banker to pay is obsequiously deferential and polite?

That when no merchant on earth will give a fellow credit for a nickel's worth of merchandise, or call at his home on anything except a cash basis—the doctor will trust him and his family for hundreds of dollars' worth of service and never desert him while he is in need of help?

That when medical men ask an appropriation to protect a community from disease and death, legislators turn it down as a needless dissipation of public funds for "foolish medical experiments"—and when a politician interested in promoting a new type of street sweeper, water cooler or office rugs asks a similar appropriation, he gets it P. D. Q.?

How is it?—Clinical Medicine and Surgery.

This interesting subject is reviewed by Byron C. Smith in a paper before the Kansas-Missouri Psychiatric Society and published in the *Journal of the Kansas Medical Society*, June, 1934.

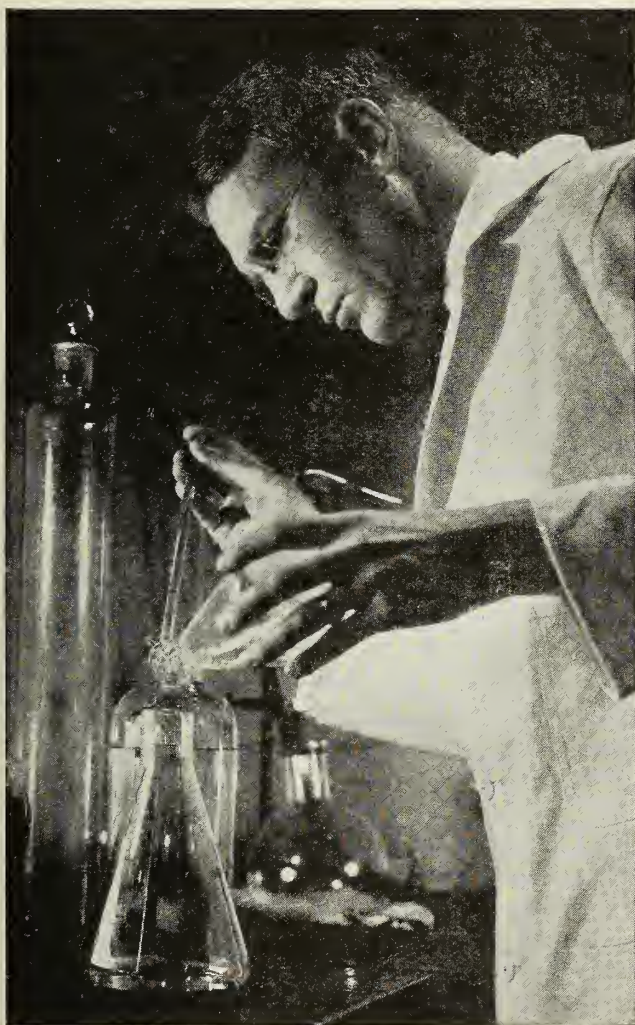
In reviewing groups of patients suffering from psychosis associated with pregnancy in the Topeka State Hospital, the author has found that 30 per cent gave a history of mental illness in the family. He believes that faulty environment in early childhood will be found in the history and studies of some cases. A case citation is likewise given showing involvement of the sympathetic nervous system in endocrine dysfunction. Toxemia, chorea gravidarum, hemorrhages, infections, and embolisms are likewise discussed as etiologic factors.

Pregnancy is a predisposing and precipitating factor in the psychopathology associated with the puerperium. The psychologic reaction of a patient to her pregnancy is affected by heredity, environment, the sympathetic nervous system, endocrine dysfunction, puerperal toxemias, post-*puerperal* hemorrhages, infections, and embolisms. The prognosis in the psychosis associated with pregnancy depends on the physical health of the individual, the type of mental abnormality, the therapy used, and the patient's reaction.—*Pennsylvania Medical Journal*.

John R. Brinkley of Milford, Kan., "goat gland specialist" who sought nomination as a candidate for governor, was defeated in the recent primary, polling less than 70,000 votes out of a total of 300,000. Two years ago Brinkley received 244,607 votes as an independent candidate, according to *News-Week*.—*Medical Review*.



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The Department of Health of Pennsylvania has recently announced a furlough plan for the 3 state tuberculosis sanatoriums, with a view to decreasing the waiting list, which now numbers more than 1000. Patients who are successfully receiving artificial pneumothorax treatment are to be returned to their homes and will receive treatment at special clinics. Field nurses and clinicians will watch these patients carefully and return to the sanatorium any who do not show sufficient improvement.—Pennsylvania Medical Journal.

Do you read the ads? If not, you ought to, and for three good reasons: first, you may see something that you need; second, you may learn of something new; third, if you are "not in the market" for anything, you will at least learn who are your friends—your advertisers, who make possible the publication of The Journal. These advertisers frequently offer booklets, samples, cigarettes, etc.; show them that you have read their advertisements by writing for their booklets and samples. Better still, buy what you need from them; you do business with those who do business with you.—Delaware State Medical Journal.

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VOL. XXXVI

APRIL, 1935

No. 4

DISEASES OF THE PERIPHERAL ARTERIES

E. V. ALLEN, M.D.*

Rochester, Minnesota

The growth of interest in the past ten years in diseases of the peripheral arteries constitutes one of the noteworthy events in medicine in this period. Before this time, care of patients with disturbances of the peripheral circulation was characterized in a large degree by lack of interest and information; sufferers, consulting physician after physician, received conflicting diagnoses and advice and little relief, which resulted in long periods of distress, exaggerated economic loss and, in many instances, eventual dismemberment. Out of the chaotic state described in brief have arisen studies in physiology, chemistry, roentgenology, pathology, allergy, and bacteriology which have enhanced our knowledge of, and contributed substantially to, the treatment of patients with diseases of the peripheral arteries. The contributions to the study of diseases of the peripheral arteries are extensive and impressive.

Orderliness in understanding is best served by a simple classification of diseases of the arteries, and such a classification is given in table 1. A summary of the important points of value in the differential diagnosis is given in table 2.

I may remark parenthetically that color of the extremities is of little diagnostic value, and that when too much stress is placed on this single manifestation, errors in diagnosis result. Thus vasomotor changes simulating Raynaud's disease may be a symptom of thrombo-angiitis obliterans,⁵ and the excessive redness of the extremity in the dependent position in thrombo-angiitis obliterans and arteriosclerosis obliterans may be erroneously attributed to erythromelalgia.

Mechanical methods are likewise of little value in diagnosis. Such procedures serve their best function in physiologic studies and records of vascular disease, and as such they are worthy

of great respect; careful examination of the patient and of his symptoms, however, are adequate for diagnosis in all but a small percentage of cases. Careful examination of patients with suspected disease of the peripheral blood vessels is an absolute *sine qua non*. This consists of careful palpation of the dorsalis pedis, posterior tibial, popliteal, femoral, radial, and ulnar arteries for pulsations, determination of the effect of posture on the color of the extremities, search for inflamed or thrombosed superficial veins and for varices, estimation of the temperature of the parts, and notation of atrophy, minor trophic changes, or frank gangrene.

RAYNAUD'S DISEASE

Diagnosis. The confusion in diagnosis, which is indicated by even a cursory survey of the literature on Raynaud's disease, seems to have a single basis: departure from the criteria stated by Raynaud. These criteria are: (1) intermittent attacks of changes of color of the acral parts, (2) symmetrical or bilateral involvement, (3) absence of clinical evidence of occlusive lesions of the peripheral arteries, and (4) gangrene or trophic changes, when present, limited in large degree to the skin. To these four criteria laid down by Raynaud we have added a fifth and a sixth: (5) the disease must have been present for a minimal period of two years, and (6) there must be no evidence of disease to which it could be secondary.⁷ These additional criteria have been found necessary to exclude the secondary type of vasomotor disturbance.

ETIOLOGY: Ninety per cent of patients with Raynaud's disease are women.⁴ They are ordinarily of asthenic bodily constitution, have unstable nervous reactions of a general nature, and are subject to states variously described as neurasthenia, chronic nervous exhaustion, psychoneurosis, and so forth. I feel that Raynaud's disease is a manifestation of inferiority of the sympathetic nervous system expressed by heightened or abnormal reactions to ordinary stimuli.⁶

Symptoms. In many instances the vasomotor changes are mild; pallor is most com-

*Division of Medicine, The Mayo Clinic.

TABLE 1
CLINICAL CLASSIFICATION OF ARTERIAL VASCULAR DISEASE

Functional or vasomotor types	Local distribution	Vasoconstricting—type	RAYNAUD'S DISEASE
		Vasodilating—type	ERYTHROMELALGIA
	General distribution	Vasoconstricting—type	Primary or essential hypertension, early states.
		Vasodilating—type	Primary or essential hypotension
Organic types	Local distribution	1. THROMBO-ARTERIOSCLEROSIS OBLITERANS.	
		2. THROMBO-ANGIITIS OBLITERANS.	
		3. Simple thrombosis: embolism.	
		4. Arteriovenous communications (congenital, acquired).	
		5. Aneurysm, with or without thrombosis.	
	General distribution	ARTERIOSCLEROSIS	
		1. Primary 2. Secondary types due to hypertension, lead, and so forth.	

mon, representing the simplest phase. Cyanosis is the next most common, occurring usually following pallor but occasionally alone. Rubor is least common. The various colors of the involved parts do not uniformly follow one another with precision. Pallor may be transformed into cyanosis in an irregular, patchy manner, and may give way to rubor while pallor is still present in other acral parts. Occasionally, when these discolorations are provoked for study, one may see all phases at the same time, pallor, cyanosis, and rubor, on the digits of a single extremity. The digits uniformly appear normal between episodes of discoloration in the early stage before permanent changes have occurred. These episodes of discoloration of the digits are usually provoked by lowered environmental temperature, but they may be associated with emotional stress and occur during periods of anger, fear, weeping, and so forth.

As the disease advances, recovery between periods of discoloration is less complete; small necrotic areas, the size of a pin-head and representing capillary thrombosis, occur on tips of the fingers; scleroderma may appear. Absorption of the distal phalanges, leading to the appearance of clubbing of the fingers, may occur,

or recurrent paronychial infections may take place.

The tendency of the condition to become progressively worse is usual, but not uniform. The condition may remain in the early stages for many years.

Physiology. The various colors of the skin of acral parts are explained by observation of the vascular structure of the nail fold. During the phase of pallor, the capillary loops are constricted and incompletely filled, and many are invisible; the blood is not flowing. When cyanosis supervenes the capillary loops have gradually dilated and an increased number are visible; the contained blood is blue and its flow intermittent. The surface temperature is low. If the dilation of recovery is excessive, rubor is present. The surface temperature is high, the flow of blood in the capillaries is rapid, and the color of the blood is red. The capillary blood pressure falls below normal during the stage of pallor and increases to above normal during the reactionary rubor.

Treatment. Residence in a warm climate and freedom from nervous and mental strain may cause amelioration of symptoms in cases uncomplicated by scleroderma, other trophic changes, or recurring infections. Surgical at-

TABLE 2

DIFFERENTIAL DIAGNOSIS OF VASCULAR DISEASE AFFECTING THE EXTREMITIES*

	Thrombo-angiitis obliterans	Arteriosclerosis obliterans	Raynaud's disease and similar conditions	Primary erythromelalgia
Age	Between 25 and 45 years	Between 55 and 85 years	Between 17 and 35 years	Between 30 and 50 years
Sex	Males, 99 %	Males, 90 %	Females, 90 %	Females, 70 %
Race	Jewish, 42 %	Any	Any	Any
Pulsation of arteries	Pulseless, 50 % Diminished, 45 % Normal, 5 %	Pulseless, 50 % Diminished, 45 % Normal, 5 %	Normal	Normal
Claudication	Usually present	Usually present	Absent	Absent
Excessive rubor with dependency	Present	Present	Absent	Absent
Excessive pallor with elevation	Present	Present	Absent	Absent
Gangrene	Common	Common	Rare, of minor degree	Never
Rest pain	Usually very severe	Usually mild	Usually absent	Mild to severe
Type of rest pain	Sharp, stinging	Aching	Absent	Burning
Appearance of gangrenous ulcers	Moist, inflamed; discharging	Usually dry	Small punched-out Areas†	None
Superficial phlebitis	30 % of cases	Absent	Absent	Absent
Roentgenogram of arteries	Usually negative for sclerosis	Usually positive for sclerosis	Negative	Negative
Color changes following exposure to cold	30 %	15 % to 20 %	Always	Never
Temperature of extremities	Low	Low	Low	High during attacks
Edema	Frequent	Infrequent	Absent	Absent

*Percentages are approximate.

†In early stages.

tack on the sympathetic nervous system is, in our experience, the most satisfactory method of treating Raynaud's disease.² Selection of cases for operation depends largely on the clinical syndrome presented. Patients with the uncomplicated forms of the disease, that is, with recurrent episodes of discoloration of the digits, are selected for operation if the disease appears to be progressing or if annoyance from the condition warrants it. Occasionally operation may be recommended as a prophylactic procedure, for the results are excellent and complications which might ordinarily occur later are avoided. The results of a thoroughly executed operation in this type of case may be indicated by the word, cure.

When scleroderma, chronic discoloration of the digits, recurrent infection, or trophic changes are present, operation on the sympathetic nervous system is advisable if sufficient available vasodilatation can be demonstrated, for no other method of treatment of value is known to us. The results in this type of case are not as striking as in the uncomplicated cases, apparently because the disease in this stage is not due to a fault of vasomotor innervation

alone; organic changes, partially or largely irreversible, are also present. However, cessation of distress and infection, improvement in the color of the digits, and softening of the sclerodermic skin are observed.

A few words should be said here about the confusing reports of the efficacy of sympathectomy in Raynaud's disease. In my experience incomplete results follow this surgical procedure when the disease is complicated or far advanced, or when sympathectomy is incomplete. The latter state is demonstrated by ability to induce sweating of the extremities, for when sympathetic control is completely removed, sweating cannot be induced by artificial means in the regions under consideration.

ERYTHROMELALGIA

Primary erythromelalgia is an extremely rare disease. The symptoms consist of attacks of burning pain in the extremities, accompanied by a sharp increase in the surface temperature, distention of the superficial veins, and relief of the distress on exposure to cold.¹² Gangrene does not occur. Treatment is usually unsatisfactory, although the local application of radium has been followed by relief in several in-

stances. Secondary types of erythromelalgia may be associated with peripheral neuritis, polycythemia, and thallium poisoning.

Burning paresthesia should not be confused with erythromelalgia. Patients with this condition complain of sensations of burning in the extremities, which, however, are cold.

THROMBO-ANGIITIS OBLITERANS

Etiology. The etiology of this condition is unknown, but the vascular changes are probably effected by bacteria or their toxins.^{14, 13} Suspicion has recently been directed toward tobacco, but characteristic examples of the disease have been observed in non-smokers. Vasoconstriction and lowering of the surface temperature follow tobacco smoking,¹¹ but the assumption that tobacco smoking produces organic changes in the arteries is entirely unwarranted. The act of smoking doubtless contributes to the diminution of blood supply to the extremities; this appears to be the sole effect. Recent studies have indicated that patients with thrombo-angiitis obliterans are sensitive to tobacco in an allergic manner; this work, however, needs to be confirmed, and more evidence needs to be advanced that organic arterial changes can be produced by allergic reaction before tobacco smoking can be accepted as a true etiologic factor.¹⁷

Pathology. The pathologic changes consist of subacute, or chronic relapsing and patchy inflammation of the arteries and veins which leads to thrombosis of those vessels. These thrombi may be canalized. The regional nerves may be involved in the process of inflammation and degeneration.¹⁴

Arteriographically, the characteristics are patchiness of the disease, stages of involvement of arteries varying in degree, and evidence of collateral circulation (Figs. 1 and 2).⁸

Vessels involved. The arteries of the legs are involved in about seventy-four per cent of cases, the arteries of the legs and arms in about twenty-four per cent, and the arteries of the arms alone in about two per cent. Arteries of parts other than the extremities are affected very rarely, although the coronary,⁹ renal, mesenteric, and cerebral arteries may be diseased by a process indistinguishable from that of thrombo-angiitis obliterans. Deep veins are frequently diseased although not extensively, and the superficial veins are inflamed and occluded during some period of the course of the disease in about forty-four per cent of cases.

Symptoms. All the symptoms of thrombo-

angiitis obliterans are due to inflammation or thrombosis of the arteries and veins or to unstable vasomotor control resulting from this. Claudication is an aching or cramp-like distress occurring chiefly in the calves, which is characteristically brought on by continuous exercise and is relieved by rest. This distress does not result from standing, however long prolonged, sitting, nor recumbency.

Lowered surface temperature of the parts, small ulcers or frank gangrene, callousing of the skin over weight-bearing areas, and impairment and irregular growth of the nails, result from the constantly diminished blood supply.

Rest pain, so called to distinguish it from the distress of claudication, which is provoked only by exercise, results from death of tissue as in ulcers or gangrene, or from ischemic neuritis. In the former instance pain is localized in the area of the lesion, in the latter it is diffuse, involving comparatively large portions of the extremity; it may be associated with hypalgesia or hyperesthesia of the skin or with diminished tendon reflexes.

Abnormal pallor of the skin when the extremity is elevated, and constant abnormal rubor when the extremity is dependent, are entirely pathognomonic of occlusion of the main arteries. Local inflammation of the superficial arteries and veins causes redness and tenderness during the acute phases; when inflammation has subsided, the veins or arteries may be felt as hard cords beneath the skin. Vasospastic disturbances, consisting of pallor, rubor, and cyanosis in any combination, when intermittent as in Raynaud's disease, are indicative of an increased lability of the vasomotor mechanism resulting from inflammation in the arteries. Gangrene, when present, varies in extent and degree (Figs. 3, 4, and 5).

Clinical types. The compensated type of thrombo-angiitis obliterans is characterized by intermittent claudication which does not progress over a period of years. In the slowly progressive type, claudication occurs after a pro-

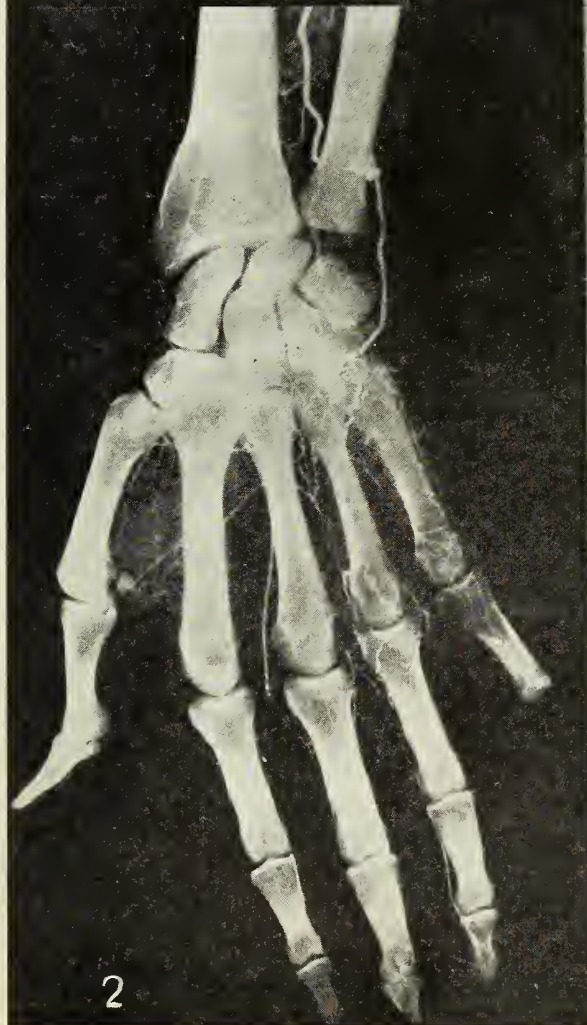
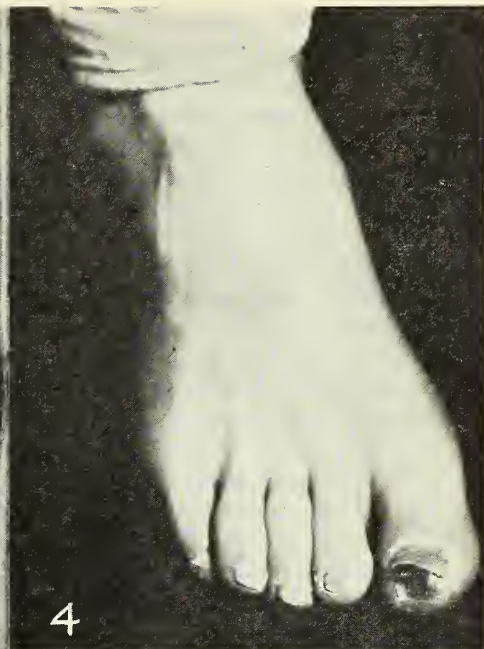
Fig. 1. Normal arteriogram. The regular course and contour of the arteries and the minimal collateral circulation may be noted.

Fig. 2. Arteriogram in thrombo-angiitis obliterans. The radial and ulnar arteries and the distal part of the interosseous artery have been occluded. Arterial blood is carried to the hand by a large collateral branch of the interosseous artery and by smaller collateral branches of the interosseous and radial arteries. Arteries of the palm and fingers are occluded in a patchy manner and the collateral arteries are increased in number.

Fig. 3. Gangrene of the second and third toes in thrombo-angiitis obliterans.

Fig. 4. Gangrene of the first toe in thrombo-angiitis obliterans.

Fig. 5. Gangrene of the entire foot in thrombo-angiitis obliterans.



gressively shorter period of exercise; trophic changes, frank gangrene, or ischemic neuritis may occur. In the type with sudden arterial occlusion, pain, pallor, and coldness of the extremity supervene suddenly; palpation discloses occlusion of the arteries. The arteries of other limbs may be found to be occluded, or occlusion may occur subsequently. In other types, vasomotor changes suggesting Raynaud's disease may be predominant, or ulcerations or minor degrees of gangrene may recur in the absence of other symptoms.

Prophylactic measures in treatment. The chief aim of treatment in thrombo-angiitis obliterans is the prevention of gangrene. The program is the same as has been so well publicized for the prophylactic care of the feet in diabetes. Trauma should be avoided, new shoes should be worn for only short periods until thoroughly broken in, protection from cold is essential, and application of strong ointments or solutions containing iodine, phenol, and other irritating substances is sharply interdicted. Such preparations, although well tolerated by patients with normal circulation, may lead to ulcers or gangrene in a patient with thrombo-angiitis obliterans. Application of Castellani's paint or immersion of the feet in solutions of potassium permanganate is preferable to the use of solutions containing iodine or salicylic acid in the treatment of trichophyte infections. Cleanliness of the feet is important.

Medical measures to increase the circulation. Postural exercises consist of alternate elevation and dependency of the extremities for periods of one minute each for fifteen minutes, two or three times daily. These exercises tend to increase the collateral circulation. Alternate immersion of the extremities in water of approximately 40 degrees and 105 degrees F. for periods of one minute each, for fifteen to thirty minutes three times daily, seems to help. The extremities may be warmed by exposing them to the heat from one or two carbon filament bulbs in bakers such as are commonly used in the treatment of arthritis. This is best carried out when the patient is resting from his work at noon or in the evening while he reads. Recommendations for the cessation of smoking, to avoid the vasoconstrictive effects, are given, but they are rarely carried out unless repeatedly mentioned. Alcoholic liquors in moderation,¹⁵ theobromine in amounts of ten grains (0.65 gm.) three times daily,²⁰ or acetyl-B-methylcholine (mecholin) in amounts of 1,500 mg.

by mouth,¹⁶ increase the circulation to the extremities.

The artificial induction of fever is the most satisfactory method of increasing circulation. This is best accomplished by intravenous injection of typhoid vaccine two or three times a week.¹⁰ An amount of vaccine containing approximately fifteen million organisms is injected the first time and increased by the same amount each subsequent time. A temperature of 102 degrees F. is satisfactory. Chills, nausea, and headache frequently occur but are well tolerated. Recently, Hermann and Reid have reported the use of an alternating positive and negative pressure to the extremities.¹⁸ The apparatus is expensive, and, in our hands, the results have been disappointing.

Surgical measures to increase the circulation. The confusion that exists regarding the value of sympathectomy can best be clarified by a statement of what the operation accomplishes. The disease is not cured or arrested, superficial phlebitis and intermittent claudication are not significantly influenced by it, gangrenous tissue is not restored to normal, and the pain of ischemic neuritis and gangrene is not relieved. As a result of these observations, sympathectomy is never performed when pain is severe, when gangrene is present, or when trophic changes are marked. The operation has but a single purpose: to increase circulation to the extremities as much as possible. This is routinely accomplished by sympathectomy, and circulation remains as adequate as possible, an achievement only temporarily effected by other methods, such as artificially induced fever. Careful studies have indicated that sympathectomy is a valuable procedure, and the results in the direction of a diminished percentage of amputations are gratifying.¹

The treatment of claudication. The newer tissue extracts almost always increase the distance an individual can walk before the distress of claudication occurs. Sharp and Dohme's tissue extract number 568 may be injected intramuscularly twice weekly in amounts of 3 c.c. Pain at the site of injection is alleviated somewhat by massage and by the application of a moist, warm pack. Myoston may be given intramuscularly in amounts of two c.c. two or three times a week, or by mouth²¹ forty drops, three times daily, about three times a week. Unfortunately, at the present time, these preparations are expensive and frequently unstable. In the future they will certainly be prepared more

cheaply and in a standard and stable form.

The treatment of rest pain. Ischemic neuritis is characterized by constant rest pain when evidence of death of tissue is lacking. The pain is very resistant to treatment, and in this regard resembles that of diabetic neuritis. Rest, the ingestion of alcohol, sedatives, the intramuscular injection of tissue extract, the intravenous injection of calcium gluconate, injection of alcohol into, or section of, the peripheral sensory nerves, are poor makeshifts, but they constitute the best therapeutic agents available. Ordinarily the pain disappears after a distressing period of several months. When gangrenous ulcers are painful, relief frequently follows the local application of such anesthetic agents as diothane. The intravenous injection of typhoid vaccine frequently relieves pain.

Orthopedic treatment. Amputation is necessary when a digit or an extremity is hopelessly involved with gangrene, or when rest pain cannot be relieved by a prolonged trial of medical treatment. Amputation of fingers is uniformly successful. In my experience it has never been necessary to amputate a hand. Healing only infrequently follows amputation of the toes, and whenever such amputation is to be carried out, the surgeon must prepare the patient to accept amputation of the leg also if healing should not follow. Amputation is successful below the knee in about eighty per cent of cases.

Thrombo-arteriosclerosis obliterans. This is a name suggested to replace the terms, "endarteritis obliterans," "senile gangrene," "arteriosclerosis with occlusion," and so forth. It describes a clear-cut pathologic entity, as does the term "thrombo-angiitis obliterans," namely, arteriosclerosis and occlusion of an artery by a thrombus which occurs characteristically among people of advanced age.

Etiology. About as little and as much are known about the cause of this disease as is known about the cause of arteriosclerosis generally. For lack of better information, resort must be had to the conventional statement that it represents wear and tear on arteries, a process of aging.

Pathology. The characteristic pathologic findings in thrombo-arteriosclerosis obliterans are calcareous degeneration of the media, proliferation of the intima, and eventual occlusion of a lumen by a thrombus. Signs of inflammation and perivascular fibrosis are absent. The

roentgenographic findings following intra-arterial injection of a radiopaque substance are: calcification of the arteries and shagginess of the lumen.

Symptoms. The symptoms of thrombo-arteriosclerosis obliterans are due to diminution in the supply of blood to peripheral parts, which almost uniformly are the lower extremities. These symptoms are intermittent claudication, coldness, excessive redness when the feet are dependent, excessive pallor when the feet are elevated, pain due to trophic changes, ischemic neuritis, and death of tissue. The symptoms have been described more in detail under the heading of thrombo-angiitis obliterans. Recurrent superficial phlebitis occurs in thrombo-angiitis obliterans alone, and the pain due to death of tissue that occurs in the last mentioned condition is more severe than in thrombo-arteriosclerosis obliterans. The characteristic findings on examination are: absence or diminution of pulsations in the peripheral arteries, excessive rubor and pallor on dependency and elevation, respectively, and varying degrees of death of tissue. Evidence of diabetes should always be sought.

Treatment. The treatment is essentially the same as for thrombo-angiitis obliterans, with the following exceptions: The intravenous injection of typhoid vaccine is ordinarily not advisable because patients of advanced age do not tolerate the reactions well. Fever which increases the peripheral circulation can be induced by the injection deep into the muscles of the thigh^{22, 3} of two or three c.c. of a two per cent solution of sulphur in olive oil. The single drawback to this procedure is the pain at the site of injection, and this pain should be controlled with morphine and the local application of hot packs. Sympathectomy is not indicated in thrombo-arteriosclerosis obliterans because adequate vasodilation will not ordinarily follow, and the operative risk is higher, owing to the advanced age of the patients. Amputation, when necessary, is successful more frequently above the knee than below it. Healing following amputation of toes occurs less frequently than following a similar procedure in thrombo-angiitis obliterans. In my experience it has never been necessary to amputate fingers in thrombo-arteriosclerosis obliterans.

ARTERIOVENOUS FISTULA

Normally, blood flows from the arteries through the capillaries into the veins. In

arteriovenous fistula the blood, taking the course of least resistance, flows from the artery directly into the regional veins. These veins become dilated and tortuous and are frequently mistaken for varices. All patients with varicose veins should be examined with arteriovenous fistula in mind. Arteriovenous fistulas are of two types: congenital and acquired.¹⁹ The latter ordinarily follows gunshot and stab wounds. In congenital arteriovenous fistula there is overgrowth of bones in a longitudinal direction, causing obvious lengthening of the limb. This occurs also in arteriovenous fistula acquired before the epiphyses close. Additional findings are: thrill and bruit over the acquired fistula, a higher surface temperature over the fistula than of the normal limb, and the occurrence of ulcers, distally, because of deficient blood. The most conclusive test is the demonstration of arterial blood in the regional veins. Occasionally, observation of red blood withdrawn from veins is sufficient to make a diagnosis, but usually it is necessary to determine the oxygen content of the blood. Surgery which is successful for the acquired type of fistula is usually of no avail for the congenital type because of the multiplicity of the communications. Under such circumstances snug bandaging of the extremity may force the blood to follow its normal path. Occasionally the dilated veins can be occluded chemically.

SUMMARY

Raynaud's disease, erythromelalgia, thrombo-angiitis obliterans, thrombo-arteriosclerosis obliterans, and arteriovenous fistula are definite clinical entities recognizable from a carefully taken history and by careful examination of the patients.

Rational medical, orthopedic, and neurosurgical treatment has accomplished much in the alleviation of symptoms and preservation of extremities in these conditions.

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A REPORT OF A CASE OF HODGKIN'S DISEASE PRESENTING THE PEL EBSTEIN TYPE OF REMITTENT FEVER WITH CHILLS AND A GENERALIZED PRURITIS*

RALPH R. MELTON, M.D.†

Halstead, Kansas

The diagnosis of Hodgkin's disease presenting glandular enlargement, whether grossly or roentgenologically, and with a definite pathologic picture on microscopic examination of a biopsy specimen presents little difficulty. The symptoms of Hodgkin's may be varied even in the types with the glandular enlargement and cause some doubt as to the diagnosis clinically. Subtract from these varied symptoms the enlargement of the glands and the value of the biopsy specimen and add to the picture fever and chills with a generalized itching of the skin and the case assumes a more complicated nature and involves a wider scope in the differential diagnosis. The type of the disease to which I have reference was first described by Murchison in 1870 and by Pel and Ebstein

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†Department of Internal Medicine, The Hertzler Clinic.

working independently in 1887. There have been occasional reports in the past twenty years. I was able to find eleven cases published since 1916 and their bibliographies are appended to this case report. The condition is not common.

The Pel Ebstein type of Hodgkin's disease is a slight advancement of the stage known as the larval stage and presents a syndrome of a very marked similarity. It is characterized by a remittent type of fever that may or may not alternate with chills, by abdominal cramps, general malaise and cachexia. There may be a complaint of chest pain. There is occasionally presented a very severe pruritis without visible lesions. (This is recognized to be a very early symptom of the lymphoblastoma group.) There is no noticeable glandular enlargement and although there may be a few shotty nodes palpable the biopsy is without confirming evidence other than being negative which tends to confirm rather than to contradict the diagnosis, since it is unusual to have the section show the usual pathologic picture.

The clinical picture all in all is one of sepsis without the patient appearing as ill as his symptoms and findings would indicate. The fever may mount to 105 degrees preceded by a hard chill, the expression is anxious, the eyes open and the mental state is clear. There may be some bronzing of the skin. The cramps in the abdomen may cause the patient to double up in bed. There is no rigidity of the musculature. The spleen may be palpable. The febrile periods may continue for three or four weeks and gradually drop to within normal range and remain only slightly elevated for ten to thirty days and then gradually mount to the higher levels. During the remissions, which occur daily, the temperature may go as low as ninety-five degrees to rise again within the next few hours. There may be two or three chills during the day and night. With such a picture one is apt to consider the acute febrile diseases and most certainly should do so. However, when the various clinical and laboratory methods fail to establish any of them, the Pel Ebstein syndrome should be considered.

The case report will be given in detail.

Case 35208 Halstead Hospital. Mr. C.H.F. 54, white male, American, entered this hospital October 29, 1933, complaining of: "Shooting pain in the left chest and lower back; skin itches all over;" Family history irrelevant.

Social history: A farmer, married, wife and five children living and well. He was born in Kansas and has spent all but four years of his life here. He was in Louisiana between 1915 and 1919.

Personal history: Usual childhood diseases. Influenza 1918. No other serious illness.

Present illness: He considered himself perfectly well until the fall of 1931 at which time "just felt no good." In January 1932 he became weak and noticed stiffness through the hips. In February 1932 he noticed intense pain in the lower back while riding in a wagon. The pain was intensified by each jolt. In March 1932 he noticed soreness of his arms and thighs and pain when he moved them. He went to a doctor who told him he had fever. The soreness was described as a cramp. He was unable to perform his usual duties by this time. In the summer of 1932 he noticed redness of the lateral surface of the palm of the left hand. This traveled up the arm and across the chest. There was no associated pain or itching. Both hands swelled some but they were not painful. He began to lose weight. In September 1932 he noticed that the soreness was gone from the arms and legs. In January 1933 he began to have shooting substernal pain radiating to the left middle chest. It was not associated with exercise or dyspnea. In February 1933 his legs began to itch. There was no lesion visible and he states that he thought it was either oak or ivy poisoning. He tried home remedies without relief. The itching persisted. In June 1933 he complained of pain in the right lumbar region. The pain was throbbing in nature and heat relieved it somewhat. In July 1933 it seemed like the pain in the back went to the belly. A drink of cold water would cause him to double up with a cramp. This persisted for six weeks with cramps every day, so much so that he was unable to eat. In September 1933 he began to have hot cramps that came on after eating, beginning in the left flank and radiating to the left groin, but never going down the leg. He was bothered with some gas, belching and bloating. There was no vomiting. The pain in the chest persisted. There was some numbness of the hands and feet especially if they became cold. In October 1933 he began to have chills, sometimes as many as two a night. There was no regularity. They occurred during the day or night. "If they had been regular I would have thought it was the ague." Quinine had no effect. The pains in the chest

persisted, there was some backache associated with tiredness, weakness, and a worn out feeling. The itching became generalized.

INVENTORY OF SYSTEMS AS OF OCTOBER 29, 1933

Head: Negative. Cardio Respiratory: There is some cough from a tickling in the throat since the "flu" 1918. Shooting substernal pain radiating to the left mid chest. No pleurisy or hemoptysis. No dyspnea or edema. Pain not associated with exertion. Gastro Intestinal: Occasional hot cramps in the belly the past three months. Appetite good, all foods agree. Thirty pound weight loss in the past eighteen months. Genito Urinary: Some difficulty in controlling the bladder after impulse to urinate. Always has impulse. Nocturia 3-5x for the past two years.

SALIENT FEATURES OF THE HISTORY

Substernal pain, tired and weak, cough, fever and chills, lumbar pains, itching without lesions, cramps, chronicity, incapacitation from usual activities and a thirty pound weight loss.

PHYSICAL EXAMINATION

A fairly well developed, poorly nourished, pale, white male of stated age, approximately five feet and nine inches in height, weighing one hundred eighteen pounds, lying quietly in bed apparently not as ill as his history would indicate. The skin is moist and of fine texture. There is a bronzing of the skin from the waist down. There are a few scratch marks. The hair is fine, sparse and black. The speech is distinct and the mental state is clear.

Head: Normal contour. Eyes: The pupils are regular but unequal, the right 2.5 mm. the left 4 mm. The right reacts eighty per cent to light and the left twenty-five per cent. The accommodation is one hundred per cent in both. The movement, sclera, conjunctiva and fundi are negative. Ears and Nose: Negative to external examination. Mouth: The teeth are badly worn, several missing and some are carious.

Neck: There are no palpable glands. The thyroid is palpable.

Chest: Rickety (pigeon type). The expansion is free and equal. There are no changes to percussion or auscultation. The diaphragmatic excursion is good.

Heart: Negative. B.P. 106/70. P. 96, regular. T. 102.6.

Abdomen: Domed, tympanitic and tense. Small ventral hernia just above and to the

right of the umbilicus. There is a relaxation of both inguinal rings with some puffiness of these when the patient stands. There is no rigidity or tenderness. The spleen is palpable on deep inspiration, but not markedly enlarged. The liver dullness extends to the fourth intercostal space on the right. The margin is not palpable on inspiration. There is bronzing of the skin of the lower abdomen extending onto the thighs. A few scratch marks are visible.

Rectal: Negative. The prostate is small.

Extremities: Negative. There are palpable popliteal, cubital, axillary and inguinal glands varying from 0.5 to 1 cm. in diameter, moveable, firm and discrete.

Reflexes, Sensations and Gait: Negative.

SALIENT FEATURES OF THE PHYSICAL EXAMINATION

The patient is apparently not as ill as his symptoms would indicate. Emaciation, pallor, bronzing, a domed, tympanitic abdomen, palpable spleen, palpable inguinal, popliteal, cubital and axillary glands and scratch marks as evidence of itching. T. 102.6 P. 96. B.P. 106/70.

LABORATORY: Urine negative. Sp. Gr. 1.014, alkaline, clear, Blood: Hb. 75 per cent. W.B.C. 12,500, R.B.C. 3,760,000. Differential count showed a polymorphonuclear leucocytosis by the Arneth Schilling Index.

Seg.	Mono.	Lymph.	Stab.	Juv.	Eos
76	0	15	8	0	1

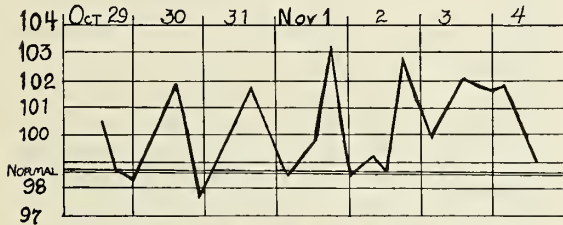
Blood smear: Negative for malaria. Blood Culture: Aerobic and anerobic repeatedly negative. Blood Wassermann: Negative. Agglutination for *B. Typhosus* and *Br. Abortus* negative.

Special Procedures: Therapeutic test with quinine failed to control chills. Residual Urine: 5 cc. Soft rubber catheter passed easily. Spinal Puncture: Fluid clear, very low pressure 1 cm. of water. The Toby and Queckenstedt tests were negative. No globulin. No cells. The Wassermann reaction was negative. X-ray chest: Essentially negative except for two indistinct shadows 2.5 cm. diameter in the right mid-hilus. X-ray spine: Antero-posterior and lateral views negative. Barium meal: Negative. Barium enema: Negative. Flat plate of the Abdomen: Negative. (This was taken in hopes that we might find some retroperitoneal glands or a calcification of the adrenals.) Biopsy: A small gland in the right inguinal region was removed. Pathologist's report: The specimen

consists of a bit of whitish tissue approximately 1 cm. in diameter which cuts fairly firm but has no definite characteristics. Section stained by hematoxylin and eosin shows a sclerosing inflammatory type of reaction characterized by a decrease of lymphoid cells and an increase of stroma. There is noted an occasional eosinophil, however, nothing definite could be diagnosed from this section. Impression: Non-Specific-Inflammation.

SALIENT FEATURES OF LABORATORY FINDINGS

An anemia with polymorphonuclear leucocytosis. Negative serology. Soft shadows in hilus. Urine negative. Biopsy negative. Lumbar puncture negative.



CHRONIC LIPOID NEPHROSIS†

RALPH H. MAJOR, M.D.*

Kansas City, Missouri

Few diseases have excited more interest and controversy in recent years than chronic nephrosis. Some authors such as Epstein have been impressed by the frequency of this condition, while others, Christian for example, are very skeptical as to its existence as a definite clinical entity. A third group, while apparently admitting its existence, stress nevertheless its comparative rarity and warn against the increasing frequency with which this disease is being diagnosed. Another interesting controversy is whether this disease has only recently been discovered by Munk and by Epstein, or whether it has been observed and treated by physicians for a generation or more.

This latter question is easily answered. Osler in the first edition of his *Practice of Medicine* published in 1892—forty-two years ago—gave us the following picture of “chronic parenchymatous nephritis”:

“The urine is, as a rule, diminished in quantity, often scanty . . . The albumin is abundant and may amount to one-half or one-third of the urine boiled.

“Dropsy is a marked and obstinate symptom of this form of Bright’s disease. The face is pale and puffy and in the morning the eye-lids are edematous. The anasarca is general and there may be involvement of the serous sacs . . . The dropsy is peculiarly obstinate.

“There are instances of this form of nephritis in which the heart is not enlarged. . . Occasionally, in children, even when the disease has persisted for two years, the symptoms disappear and recovery takes place.”

While this description of Osler’s fits certain cases of chronic nephritis in which edema and albuminuria are outstanding symptoms yet I wish to stress his observation that some of these patients show no enlargement of the heart and that recovery may take place. These two features alone are quite at variance with the accepted picture of chronic nephritis, a disease which leads almost invariably to cardiac enlargement and just as invariably to death with evidence of preceding kidney insufficiency.

Christian in his excellent critique of nephrosis read before the Association of American

Physicians in 1929 points out that many cases originally diagnosed as chronic nephrosis later showed cardiac enlargement, high blood pressure, and after death were proved by autopsy to have a typical glomerulo-nephritis. This clinical picture, the nephrotische Schrumpfniere of the Germans has led to much confusion both in diagnosis and in terminology, and every physician who has studied kidney disease has encountered these cases which have caused him to change his original diagnosis of chronic nephrosis and even to wonder in his perplexity whether a true nephrosis exists. However, when his patient recovers completely his confidence in the existence of this definite syndrome returns as well.

The disease described by Munk as lipoid nephrosis and by Epstein as chronic nephrosis presents certain definite clinical manifestations and equally striking laboratory findings. I shall endeavor in this paper to discuss these two sides of the problem as well as touching upon some of the more interesting questions of its etiology, its physiological pathology and its treatment. My own particular interest in this disease extends over a period of some fifteen years or more during which I have run what is perhaps the usual gamut of experiences and mental reactions. I began by doubting its existence altogether. Then I saw what seemed to be two typical cases and fired by this experience began to wax enthusiastic on the subject and to diagnose the condition with increasing frequency. Then came a setback administered by some of my pathological colleagues, who demonstrated to my unwilling eyes that some of my cases of nephrosis showed at autopsy a chronic glomerular nephritis. After being submerged for a time in a sort of medical atheism on this subject, my faith was again restored by seeing three patients recover completely from this disease. This disease is certainly uncommon, it has unquestionably been diagnosed too freely and too loosely, yet it does apparently occur and its clinical course as well as its different prognosis entitle it to continued study and investigation.

One of the most striking features of this disease is the edema which the patient presents. This edema involves the eyelids, face, pleural and peritoneal cavities, the genitalia in males and particularly the legs. In one patient the edema of the legs was so marked and so painful that we punctured the skin in several places with a hypodermic needle and as a matter of interest placed both feet in pans and measured

*From the Department of Internal Medicine, University of Kansas School of Medicine.

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the fluid trickling down from the minute punctures. From this patient we collected 250 c.c. per hour in each pan for six hours, a total of 3,000 c.c.

Another interesting feature of these patients is the absence of any elevation of the blood pressure, as well as the absence of any cardiac enlargement. This finding, which was noted long ago in these cases, and which is in marked contrast to the striking elevation in blood seen in glomerular nephritis, is understandable when we consider the pathological physiology of the two conditions. There is excellent evidence that we have in chronic glomerular nephritis a widespread involvement of the arteriolar system. Gowers in 1876, fifty-eight years ago, demonstrated that the retinal vessels in chronic glomerular nephritis were markedly constricted and stated that the degree of constriction was directly proportional to the degree of elevation of the blood pressure. Subsequent work, notably the studies on the capillaries and arterioles initiated by Otfried Müller, has shown rather conclusively that the elevation of blood pressure in chronic glomerular nephritis is produced by a widespread generalized arteriolar constriction. Indeed, in acute nephritis, as Clawson has shown, it is sometimes possible to demonstrate arteriolar constriction in the vessels of the nail-bed before albumin or casts appear in the urine. Pathological studies also demonstrate that there is widespread arteriolar disease.

In chronic nephrosis by contrast we see the lesions mainly in the tubules, in the parenchyma of the kidney and in the cells of other organs, notably the liver. The arterioles are spared and as there is no constriction of these vessels, the blood pressure does not rise. In the absence of any elevation of the blood pressure, there is no great increase in the work of the heart and consequently no cardiac enlargement.

In summary, then, the outstanding clinical signs of chronic nephrosis are edema with a normal blood pressure and a normal sized heart.

The laboratory findings in chronic nephrosis are equally distinctive. The urine contains a very large amount of albumin and may become almost solid on boiling. On microscopic examination, by contrast with glomerular nephritis, casts may be absent or present only in small numbers. In passing we should like to call attention to the fact that casts are normally present in the urine and can be demonstrated by the proper technique, a fact that we should

always keep in mind before frightening a patient in whom we have discovered an occasional urinary cast on microscopic examination.

The blood chemistry in chronic nephrosis is one of the striking findings and has been the subject of endless studies and speculations. First and foremost, we find normal values for non-protein nitrogen, urea, creatinin, uric acid and sugar, all in marked contrast to advanced chronic glomerular nephritis with its nitrogen retention. The blood cholesterol, however, is markedly increased, and this is one of the most striking and best known chemical findings in this disease. The cause of this phenomenon remains, despite much work, entirely unknown. The subject of cholesterol metabolism is at present very poorly understood, and until we know more of the origin of cholesterol and of its fate in the body, it is idle to speculate on its behavior in disease.

The other striking finding in the blood chemistry of this disease is the diminution in the amount of serum albumin and serum globulin and commonly an inversion in the ratio of the two. While normally the ratio of serum albumin to serum globulin is as five to three in disease the ratio may be for instance four to four or three to five. This diminution of serum albumin and serum globulin which is intimately concerned in the production of edema immediately suggests two possibilities, either we have a diminished amount through loss in the urine, or through a failure of the mechanism by which these substances are produced. Here again, to be frank we must admit that we do not possess evidence conclusive enough to decide this question, although recent investigations have shed a certain light on the subject.

The work of Whipple explains the inversion of the serum albumin-serum globulin ratio. This observer has shown that serum globulin is produced more rapidly than serum albumin and if we deplete the supply of both by the expedient of bleeding, the serum globulin regenerates more rapidly than the serum albumin. These observations of Whipple have been repeatedly confirmed.

The observation that the serum albumin and serum globulin are markedly lowered in this disease has stimulated attempts to reproduce a disease picture of chronic nephrosis by the method of plasmapheresis. This process consists in removing the blood collected in citrate solution, centrifugalizing the citrated blood, pouring off the supernatant fluid, and

reintroducing the red blood cells in salt solution. In this manner the number of red blood cells is kept high, while the amount of blood proteins is lowered. This procedure has been employed in many experimental laboratories including our own. It is very striking how difficult it is to produce a low blood protein, by this apparently formidable measure, which in practice consists in changing the blood of a dog every two or three days. When this procedure is carried out this fall in blood proteins is followed by a generalized edema. It is striking, also, in our experience that this method of lowering blood proteins by mechanical removal does not produce any increase in the blood cholesterol. It is also noteworthy that if the bleedings be discontinued in many instances only for two or three days, the blood protein regenerates very promptly, the serum globulin being formed more rapidly than the serum albumin. This rapid formation of blood proteins after their mechanical depletion is to me strong evidence that there is deficiency in the formation of these blood proteins in chronic nephrosis.

Another striking finding in many of these patients has been the lowered metabolic rate, a feature stressed particularly by Epstein, as is well known. He has argued from this finding that the disease is primarily a thyroid deficiency.

The fact that the basal metabolic rate is often markedly diminished is unquestioned. To my mind, however, it is more probable that this finding is related to the marked edema that the patient shows, which may interfere with the radiation of heat and also perhaps in calculations which are based on standard body weights. At any rate, there are two unsurmountable objections to the assumption that hypoactivity of the thyroid produces chronic nephrosis. First, if thyroid deficiency is the cause of chronic nephrosis, it should be invariably present in myxoedema. This has not been the case in my own experience, and there is little substantiation for this view in the literature. Second, if thyroid deficiency produces chronic nephrosis, the administration of thyroid extract should promptly lead to improvement or cure of the condition. While Epstein has reported some good results following the use of thyroid extract, most observers have not seen much effect from it in the treatment of chronic nephrosis. As far as I am personally concerned I have seen none whatever.

Again, in summary, we may say that the outstanding laboratory findings are the marked albuminuria, the low blood proteins often accompanied by an inversion of the serum albumin and serum globulin ratio, the increase of blood cholesterol and the diminished metabolic rate.

What is the etiology of this unusual disease picture?

There is a very considerable and influential group, in which perhaps the pathologists dominate although it includes many eminent clinicians, who insist that this disease is nothing but a chronic glomerular nephritis with unusual clinical findings. They point out that the great majority of cases coming to autopsy show chronic glomerular changes. Although there have been cases reported in literature in which the patients fail to show these changes at autopsy, these critics retort by saying that the pathologist's technique was not good enough in these cases, or else he overlooked these changes. To the objection that some of these patients have recovered, this group answers that such individuals have not been followed long enough, and possibly their recovery is only apparent and not real. As far as my own experience is concerned I have studied thirteen cases diagnosed as chronic nephrosis during the past ten years and so far as I have been able to ascertain only three of these patients have died. Two of these individuals who had suffered from chronic nephrosis for a period of three years showed at autopsy chronic glomerular lesions which the pathologist, however, did not think dated nearly as far back as the onset of the illness. The third patient showed no chronic glomerular change but an acute glomerular nephritis. I have kept in touch with three patients of this series who so far as I can tell are perfectly well at the present time, one of them being dismissed from the hospital eight years ago, and the other two, three and three and a half years ago. Instead of assuming that chronic glomerular nephritis produces this condition, it is quite reasonable to me that the disease begins rather independently and that the kidney changes develop in the course of years. Such a sequence of events has, I think, been rather clearly proved in hypertension, gout and lead poisoning, to mention a few outstanding examples.

Disturbances of the thyroid gland, as already mentioned, have been suggested as possible causes of chronic nephrosis. I have also dis-

cussed two strong objections to this point of view. To my own mind the key to the etiology of this disease probably rests in the disturbance of cholesterol and of blood protein metabolism. We have recently carried out some observations that may have a bearing on this point. We studied the nitrogen balance of two patients on several occasions. It is very interesting to note that each patient had an optimum limit for the utilization of nitrogen. If the nitrogen intake was low, the patient excreted more nitrogen than he ingested. When the nitrogen intake was increased to a certain point, the patient excreted just as much as he took in. If, however, an excess of nitrogen was given above this level, all the excess nitrogen was promptly excreted. In other words, the patient unlike a normal man or especially a growing youth was unable to store nitrogen. It is also interesting that the two patients studied had different levels of nitrogen balance. These observations are not only of some interest from the etiological standpoint but also from the practical standpoint, as will be mentioned later.

If this inability to store nitrogen is a fundamental pathological defect in this disease, it suggests very strongly that a defect in this regulation plays an important role in the production of the disease. Recent work in Cushing's Clinic, and by Dr. Collip and his associates apparently shows that there is an active principle in the anterior lobe of the pituitary which has a profound effect upon nitrogen balance, and that the injection of this extract in experimental animals leads to a storing up of nitrogen. While there seems to be a tendency at the present time to blame too many things on the pituitary gland, yet this is a lead which seems to me should be at least followed.

Other organs have been incriminated in this process, one of which is the liver. Here again there is suggestive evidence that there is disturbance in the physiology of the liver. The importance of the liver in the formation of cholesterol and of blood proteins suggests strongly that it plays an etiological role in the production of this disease.

Considering the therapy in chronic nephrosis we are forced again with the problem so frequently encountered in the practice of medicine, the treatment of a disease whose causation we do not understand. However, if every practicing physician waited until the etiology of a certain disease was cleared up before attempting to treat patients with this disease, medicine

would have absolutely made no progress. Also the etiology of many diseases has been cleared up after therapeutic measures had been discovered.

Epstein, who deserves the credit for having called this syndrome to the attention of American physicians, advised the use of thyroid extract and of high protein diets in the treatment of this disease. He reasoned that the low metabolic rate called for the administration of thyroid extract and that the loss of protein in the urine was an indication that these patients should be fed large amounts of protein. Most observers are skeptical about the effect of thyroid extract. The use of a high protein diet in these patients has, however, certainly been a boon, but it should be emphasized that an excessively high protein diet is not only difficult to take but is apparently of no especial value since the excess of protein in the diet is not utilized and is promptly excreted in the urine. In our own experience there is no merit in increasing the protein above that of a normal diet. However, when we realize that in the past these patients were put on excessively low protein diets, we must be grateful to Epstein for having insisted on high protein diets, which at least were infinitely better than the low protein diets that were at that time in vogue. In two patients we have obtained what seemed like very striking results in giving high carbohydrate diets. Metabolic studies also indicate that high carbohydrate diets have a definite effect in sparing protein. It is certainly much easier to ingest than high protein diets, and as one of our patients with a very marked edema remarked, it was a wonderful thing to be told to eat all the candy she wanted to reduce her weight, since she had been afraid all of her life to eat candy for fear it would make her fat.

To restore the depletion of blood protein, we have resorted regularly to blood transfusion without in any instance seeing bad results. This in our view is an important therapeutic procedure. For the marked edema these patients show, we have commonly employed novazuril or some other diuretic without at any time seeing any deleterious effect. We have also employed intravenous glucose. Where the legs have become excessively swollen, we have not hesitated to puncture the skin and allow the fluid to run out.

This disease, as indicated, still remains to some extent shrouded with mystery, but with less mystery than formerly, thanks to the in-

terest which it has excited during the past decade. Some have suggested that the interest it has created is out of all proportion to its importance. To this we answer first that the intensive study of this disease has led to a much clearer understanding of some allied conditions, notably edema anemia and cardiac disease, and secondly that this disease while uncommon is of supreme importance to the patient suffering from it. What we need is not less study of the syndrome but more.

THE TREATMENT OF BURNS*

M. E. PUSITZ, M.D.†

Topeka, Kansas

INTRODUCTION: The following discourse is believed to be a didactic and yet practical review of the modern treatment of burns even though personal additions are allowed to hold sway in certain of the principles in treatment.

This field of therapy is of the utmost importance in the every day practice of the doctor as is evidenced by the interest which has been evinced in this field by the profession, by the industrial world, and by the public. Lack of proper scientific treatment has in the past resulted in complications, deformities, and even deaths in what appeared in the initial stages to be burns of trivial degree. It is absolutely imperative that we give these cases the same careful consideration and apply the same aseptic surgical technic as we do in any other branch of general or orthopedic surgery. Ignorance of principles which can obviate all the undesirable consequences enumerated is but a mark against not only the individual practitioner but the entire profession.

HISTORICAL: Almost every clinician has some sort of an idea on the treatment of burns. It is therefore highly essential for the individual to know something about the background in the history of these conditions, so that he may realize that progress has been such as but to terminate in what is at present the most widely accepted method, the so-called modern treatment.

The remedies which have been advocated in the treatment of burns are legion as one can see if any older text book be perused. In the beginning of the nineteenth century, clinicians

were still using a hodge podge of varying procedures which were not far removed from the lards and aromatic oils of Hippocrates. Even, however, as early as Ambrose Pare, we note the attempt to use some precautions in the treatment of all wounds. This possibly marked the first step towards the next goal which was the introduction of antiseptics into the routine. Pirrie of Aberdeen, after listening to Lister on the value of antiseptics, began to use phenol in the dressing of burns. The antiseptic principle was also advocated by Morris in this country.

During the nineteenth century, the general treatment of the patient was stressed, and it was realized that this was just as important or even more important than the local treatment. In 1844, Parker pointed out the importance of treating the shock which accompanied the condition, even though this was not universal until 1880. In 1823, Cumin, and in 1862, Baraduc, pointed out the presence of the increased viscosity of the blood in burns; but this again was not universal knowledge until the beginning of the present century. Several decades ago, much work was done on the value of blood letting. At first this was a shot in the dark, but later it was proven that the toxin released in burns was somehow bound up with the red blood cell. With this knowledge, Dr. Bruce Robertson of Toronto established his life saving though heroic measure of exsanguination—transfusion, a method which is used to this very day in burn toxemia of grave character.

The local treatment of a burn must have always been in terribly poor shape since each individual author described so very many different applications and stressed none of them. With Passavant, we have the introduction of the continuous submersion bath to replace the older traditional methods of occlusive dressings of all kinds of oils and ointments. In 1887, Copeland popularized the open air treatment, forming enclosures about the patients. No dressings at all were applied, the area being exposed to the air. However, this method was soon forgotten only to be again brought to the foreground by Sneve in 1905. From then on until 1914, these two schools of thought occupied the attention of the profession because of their antagonism. In 1914, Barthe de Sandfort introduced paraffin wax or "ambrine" as a dressing for burns. The enthusiasm for this soon abated when the end results of cases were determined. In 1925, Davidson of Detroit published his method of treating the burned area

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†Orthopedic Surgeon, Kansas Crippled Children's Commission.

with tannic acid. End results with this system have been of such a nature as to revolutionize the treatment of burns, so that today this is the common method of treatment at least in this country.

PATHOLOGY: The usual definition of a burn is that it is a coagulation necrosis of the structures involved, and that it gives rise to the same phenomena of inflammation as are encountered in wounds. In fact, in Stewart's text book of Surgery burns and inflammation have been compared as is shown in the following table.

BURNS	INFLAMMATION
1. Erythema (first degree)	Hyperemia
2. Blistering (second degree)	Exudation
3. Charring, Phlegmon (third degree)	Necrosis
4. Suppuration	Suppuration
5. Cicatrization	Repair

No matter how one tries to liken a burn to a wound it is important to remember that there is an essential difference. A surgical wound is a solution in the continuity of a given structure, and most of its attributes are of a local character. A burn, however, is a solution of the vital continuity of the structure; but not of its physical or mechanical continuity. It therefore has an entirely different pathological syndrome, in which general features rather than the local area are stressed. When the slough has separated and the granulating area exposed, then and then only is it comparable to a surgical wound; and the treatment then follows that of a surgical wound.

The pathology may be considered under a series of headings which follow the progress of the patient in chronological order.

1. Surgical shock: usually over with in the first twelve hours.

2. Primary shock or dehydration or anhydremia, appearing within the first twenty-four to forty-eight hours.

3. Toxemia—usually appearing after twenty-four to forty-eight hours.

4. Sepsis—usually appearing after the sixth to eighth day.

5. Repair or granulation of the wound.

6. Cicatrization or scar formation.

SURGICAL SHOCK: The initial shock which accompanies the condition is in no way different from shock accompanying other traumatic conditions. The factor which determines its onset and degree is the extent of the burn rather than its depth. It appears within a few minutes after the accident and is recognized

by the usual signs—rapid, feeble pulse, subnormal temperature, low blood pressure, pallor, sweating, and thirst. It causes only a very small percentage of the mortality due to burns. It is usually over with in twelve hours, and therefore if it is prolonged beyond this time we are dealing with something other than surgical shock.

PRIMARY SHOCK OR DEHYDRATION. The local changes in the skin and other structures are evidenced by a destruction of the outer layers by coagulation or charring as a direct result of the heat. This is an unimportant detail. The important aspect to consider is that just beneath this destroyed area there is a zone in which the change is largely one of pathological physiology. It consists mainly of a change in the permeability of the capillaries. There is a lowering of the absorbability and an increase in the ability of the cells to allow fluid to leave the blood vessels; and this, coupled with the excess of blood sent to the burned area as a result of the exposure to heat, gives rise to the loss of an enormous amount of fluid. This disturbance in capillary bed equilibrium persists for twenty-four to forty-eight hours depending upon the severity of the burn and accounts for the occurrence of the anhydremia.

Underhill has shown that this anhydremia or blood concentration is due to plasma depletion. Chemical determinations of the exudate found in burns show that it is almost identical in composition with the blood plasma. Examination of the blood also reveals the marked concentration to be evidenced by an increase in the red cell count and a rise in the hemoglobin content. These are simple clinical laboratory determinations and should be made routinely in all cases. They account for many of the cases being reported with excellent blood counts and yet their conditions may be very critical. Underhill and his coworkers have shown that in animals burned over one-sixth of the body surface, the amount lost was over seventy per cent of the total volume of the blood. They reasoned that in clinical cases this may represent the limit to which the organism can give up its reserve water content without losing the required volume of the blood.

These phenomena are entirely due to physico-chemical forces; the water equilibrium between the blood stream and the tissues is the resultant of two osmotic forces. The tissue colloids tend to pull the water from the blood stream into the tissues; while the blood col-

loids tend to pull the water from the tissues into the blood stream. When the plasma of the blood escapes in the area which has been burned, the osmotic pressure of its remaining cellular content is greatly increased, as the amount of colloid per unit volume is increased. This results in the water being drawn into the bloodstream to re-establish the blood volume; but the result is a dehydration of the tissues. If this water which is drawn into the bloodstream would remain there, probably no ill effects would follow; but, as we have seen, it is promptly poured out again. The result is again an increased concentration of the blood, and again we have the same cycle repeated. When the tissues have no more water to give up, the viscosity of the blood increases. Finally it is so great as to cause by its mechanical resistance a faltering of the heart due to overload. This has been called profound primary shock by some authors although this is far from being an appropriate term.

After twenty-four to thirty-six hours, the capillary openings close, and the water equilibrium is re-established provided an abundance of fluids is provided during this period. Since the blood is thick and sticky, it flows slowly through the capillaries and is quickly robbed of its oxygen content, causing inadequate oxygenation and consequent partial asphyxiation. The total plasma proteins and the total plasma volume drops during the first twenty-four hours.

TOXEMIA: About twenty-four hours after the accident most severe burns enter into a toxic stage which is peculiar to this type of injury. The onset is characterized by a clearly defined set of symptoms—high temperature, vomiting, drowsiness, muscular twitchings and convulsions. These apparently are the result of the action of the toxin upon the central nervous system; the action, however, is not limited to this system alone. Post-mortem examinations reveal widespread evidence of its effects in the form of focal necroses and petechial hemorrhages in nearly all of the parenchymal organs of the body. The post-mortem picture resembles very closely that produced by the diphtheria toxin.

The source of the causative toxin has been the object of much investigation and certain facts are definitely known. It arises in the burned area and is absorbed and distributed to all parts of the body by the blood stream. Experimentally, it has been shown that excision

of the burned area, which ordinarily would result in a toxemia, entirely prevents the onset of the toxic stage. Experiments with dogs have been carried out where a burn inflicted on one of the dogs in parabiosis caused a toxemia in the other dog. By severing the circulatory connection within twelve hours after the burn, the evidence of toxemia was lessened in the unburned dog and increased in the burned dog. Blood from this burned animal when transfused into a normal dog brought on this peculiar toxic stage.

This is all that is definitely known. It is believed that this is a histamin-like substance. In the blood stream, this toxin appears to be intimately associated with the red blood cell as is evidenced by the fact that if we remove blood from the patient we can temporarily lessen the toxemic symptoms.

When the toxemia increases, the loss of plasma proteins may continue even though the volume of the plasma remain normal. In such cases, the loss of plasma proteins occurs throughout the capillary bed of the entire body, owing to the alteration of its permeability produced by the absorbed toxin (Davidson and Mathew). Coincident with the loss of plasma at the site of the lesion, there is a marked loss of sodium chloride. This can be estimated by a determination of the blood chloride, and an effort should be made to replace it. In this connection, it has been shown that an animal can lose and compensate for a loss of from three to thirty-six per cent of the total sodium chloride content in the blood.

This toxin production continues from one to eight days, until there is the separation of the slough from the living tissue. Then there follows the next pathological syndrome.

SEPSIS: The stage of sepsis overlaps in its onset somewhat the end of the toxemic period. Infection of some degree is present in every burn in which there has been any considerable destruction of tissue. It is impossible to so treat a burned area by applications as to keep it aseptic. The dead skin, moistened with dressings or underlying secretions, forms an ideal nidus for bacteria, and in it they live and grow.

Locally, the onset of sepsis is evidenced by foul smelling, purulent discharge, and this is usually accompanied by fever. Septicemia may occur and terminate fatally. This septic state lasts until all the sloughs have separated, and free drainage is established. This usually occurs about the end of the second week. Therefore,

one of the essentials is to encourage this separation of the sloughs as early as possible after the end of the second week. Occasionally, the sepsis persists even after the separation of all the sloughs. In such cases, amyloid disease is prone to occur. After toxemia, sepsis is the most important cause of death.

REPAIR: With the separation of the sloughs, the stage of sepsis usually ends and the stage of repair begins. The burn has now been transformed into a healing ulcer, and its pathology and progress is no different from any other surgical granulating wound, except that the patient has passed through a series of pathological syndromes and is by now in a moderately exhausted state both mentally and physically.

The stage of repair continues until the wound is completely covered with epithelium. This process, however, is slow, and if the area is large, it may take months and months for it to heal if it ever does so completely. It must also be remembered that as long as the wound is open the dangers of sepsis and toxemia are still present, tending to further lower the condition of the patient. Added to this is the ever-present problem of dressings. Keeping these facts in mind, it will readily be understood why early removal of the sloughs and grafting are advised by the writer.

CICATRIZATION: The granulation tissue which covered the wound before the area was epithelialized turns into scar tissue. This as it is formed, tends to shorten or contract. If the wound is in the vicinity of a joint, we get the formation of a deformity or contracture. There may also be an effect on all the surrounding tissue, including the blood vessels and nerves. A general law may be enunciated that the longer the area goes uncovered, the greater is the amount of granulation tissues formed, and therefore the greater the resulting contracture or deformity.

HEAT REGULATION: One pathological factor has not been mentioned. The skin is normally a most efficient insulator or heat regulator of the body. The destruction of a large area of skin means that there is a marked body loss of heat through radiation, and this increases the shock unless means are taken to prevent this. Even Passavant and Copeland learned that it was important to prevent this loss of heat by radiation.

This completes the pathological syndromes which occur in a burn. They have been dis-

cussed in chronological order with the exception of the last paragraph. The treatment of a burn (besides prophylaxis) will resolve itself into the treatment of each pathological syndrome.

THE EMERGENCY TREATMENT: A burn is an emergency condition just as much as an acute appendicitis or an acute osteomyelitis—every hour counts. When a burn is first sustained it is impossible in the majority of cases to determine with any reasonable accuracy the degree of burn. It is not until the dead epithelium has separated that the depth of the burn can be accurately determined. Moreover, it is the extent of the burn rather than its depth which accounts for the greater portion of the mortality due to burns. Therefore all burns are considered as serious burns at the onset of the condition.

FIRST AID TREATMENT: While it is true that in the majority of cases we shall not be able to control the first aid treatment, still the industrial concerns and the nurses can be instructed not to apply any dressing at all. If a first aid dressing is required then, as has been pointed out by Lee, a strong brew of tea makes a tannic acid solution of from five to seven per cent, and this may be applied. The application of the strong brew of tea means that it is possible to begin the tannic acid treatment no matter where you are, immediately after the burn has been sustained.

All cases of severe burns should be treated in the hospital; it is poor economy to try and treat these cases at home. We believe that every hour counts in the treatment of these cases, hence institute the proper measures at once. No effort is made to classify burns according to their degree or to calculate the area involved in percentage. All attempts to do so have failed (to the sad experience of the patient). If the pain is severe (the usual story), morphine may be administered at once if available.

THE INITIAL TREATMENT: When the patient has been admitted to the hospital, we must first of all treat the pain and shock. If the patient's respiratory rate is not too low, morphine in large doses is administered the minute he reaches the ward (if he has not already received this in the first aid treatment). Just what is then done depends upon the age of the patient and the extent of the burn. In cases where the burn is so extensive that it is almost certain the patient is going to die, the patient is placed in a tub bath of two to three

per cent saline at a temperature of one hundred degrees; the tub is padded with blankets and with sheets. The patient's excreta are simply drained from the tub and fresh saline added. This forms the most comfortable means of treating dying patients or patients who have received so extensive a burn that no matter which position we place them in they are still lying upon a large area which has been burned. In cases where the clothes of the patient have become charred right with the tissues and it is difficult to remove the same without causing a great deal of pain, again the bath is most useful as a preliminary. Otherwise the patient is placed in bed, with the burned area not touched by any dressing or bed clothes. Immediately a cradle with electric lights is placed over the patient. The temperature of this should be ninety-eight to one hundred degrees. This prevents the undue loss of heat by radiation.

THE TREATMENT OF SHOCK: We must distinguish the initial shock which accompanies these conditions from the so-called primary shock which is due to the dehydration of the tissues and the anhydremia with its consequent load on the heart. It appears within a few minutes; in most cases can be overcome by morphine, heat and fluids; and by twelve hours has disappeared. The head of the bed is lowered. The morphine is repeated often enough and in large doses to keep the patient free from pain; always remembering to discontinue its use as promptly as possible because the consequent depression of respiration is a factor in the not uncommon complication of pneumonia or massive collapse. Morphine should not be withheld on account of the youth of the patient. There is nothing which can supplant it in the treatment of surgical shock.

Stimulants in the form of caffeine or adrenalin may be given hypodermically, although hot strong coffee per rectum serves admirably to provide both heat and stimulation. If hemorrhage has occurred, then without hesitation a blood transfusion is given. Even without hemorrhage, Davidson of Detroit has been giving a blood transfusion as a prophylactic measure against shock in a patient who appears to have a lethal burn. Then if shock appears, the transfusion is repeated in twenty-four hours. All of us are finding this a potent factor in treatment.

THE TOILETTE: As soon as the patient is under the influence of the morphine and has had a chance to get warmed up under the cradle, our attention is directed towards the local

lesion. Any dressings which may have been applied are removed, and if any grease or oil has been applied to the burned surface this is removed as quickly and gently as possible with ether. Soap and water serve well, but benzol or ether may be required to remove greases. If the clothing must be cut away, this is best done in the saline bath as has been mentioned.

Vesicles that have already formed are cut away with sterile scissors and the outer layers of epithelium which are loose are peeled off. This is important because unless the badly damaged outer layers are removed, the tannic acid will not coagulate the deeper layers. In the course of the day, if additional vesicles form, they should be treated in the same manner. Gross dirt is removed from the wound. It is unnecessary to scrub the area energetically with antiseptics; moreover, this is productive of shock. No anaesthetic should be required in this procedure; it is in fact dangerous because it may increase the shock and further concentrate an already concentrated blood. Once the patient is prepared, he is left unclothed for the entire period of treatment until there occurs the separation of the slough and the area is converted into a granulating wound.

THE TANNIC ACID TREATMENT: Just as soon as the area has been prepared an aqueous solution of tannic acid (five per cent for children and ten per cent for adults) is sprayed over the entire area which has been burned. These solutions are stronger than that originally recommended by Davidson, but the object is a more rapid tanning of the dead tissues. The more rapidly this is accomplished the less the production of the toxin and also the less the dehydration. The spray from an ordinary atomizer is satisfactory. The tannic acid corrodes the metal parts of the atomizer, and therefore special ones with rubber and glass parts have been devised.

If the burn has involved the face, most clinicians do not use the solution although no one has reported injurious effects of tannic acid on the cornea. Instead a tannic acid jelly has been prepared which can be spread over the face in a thin layer. This, as it dries, leaves a firm coagulum over the burned area. This jelly is also used occasionally in certain other inaccessible areas difficult to treat with the spray. Petrolatum is smeared about the eyelids, nostrils and lips to prevent them from becoming uncomfortably dry and stiff. Also in burns of the perineum, it is smeared about the external genitalia

and anus.

Glover uses a tannic acid jelly which he prepares with a tragacanth base about the consistency of ordinary lubricant jelly; and is made so as to yield a five per cent tannic acid preparation. Tannic acid ointments made up with a petrolatum or lanolin base are not satisfactory because not enough of the tannic acid actually reaches the burned area, and the oily base prevents the coagulum being dried by the air. There are disadvantages to the jelly also; but it does form a coagulum almost as quickly as the tannic acid spray.

ACTION OF TANNIC ACID: The use of tannic acid marks the most important advance made in the history of the treatment of burns. In most cases it entirely prevents any serious degree of toxemia; but toxemia can occur even with tannic acid in the more severe burns. This it is claimed is due to the mechanical difficulty of tanning a deep burn throughout its entire thickness. In addition to its marked value in the treatment of toxemia, tannic acid has certain other advantages which of themselves are sufficiently great. It has first of all a selective action on the burned skin. Only the dead skin is tanned. The surrounding living tissue is not affected. Tannic acid precipitates proteins only in faintly acid media: dead tissues are faintly acid, living tissues faintly alkaline, and for these reasons the action of tannic acid is limited to the necrotic tissues. Secondly, for a considerable time it obviates the need for any other dressing. The dead skin is transformed into a black, dry, painless sheet of leather, which effectively protects the underlying living tissues. The tanned area begins to separate about the seventh to tenth day, and until this occurs usually no dressing is required. This freedom from the exquisitely painful ordeal of dressings is to be appreciated by those who deal very much with burn cases. Thirdly, many burns are completely epithelialized when the tan separates. This is true of all of the more superficial burns. The deeper burns are of course not epithelialized and present a granulating surface when the tan separates. Fourthly, the dry leathery sheet into which the necrotic skin is transformed is a most unfavorable nidus for bacteria. Infection is therefore very much reduced.

It is important that the solution be freshly prepared, since in standing the tannic acid turns into the much less active tannous acid. The ordinary tannic acid powder is used with water.

The tannic acid is sprayed over the burned area every hour for the first twenty-four hours. In very extensive burns the spray is made every fifteen minutes during the first few hours. At each spraying a thin film only is spread over the burn since any greater quantity will only run off. If the burned areas are well coagulated and dry at the end of twenty-four hours, tannic acid may be omitted. Nothing further is done for the next few days, the patient of course being unclothed and under the electric cradle bath or canopy. When skin surfaces must come in contact, as between the arm and chest wall, a sterile towel is placed between the two. If any part of the area must come in contact with the bed, a sterile sheet or sterile towels should be placed under the part. In large burns, if the saline bath is not used, it is most satisfactory to have sterile sheets placed under the entire body.

It is possible at this stage that surgical debridement is the best treatment for the very deep, small burns, as this will give a surface suitable for grafting at the earliest possible moment and cut down the incidence of infection and toxemia; though in some cases adding to the shock. If the extensive debridement seems indicated, a general anaesthetic should be given. Complications in the nature of lacerations, fractures, etc., must be sought for and treated at this time. Attention is also paid to special areas as the eyes, which if burned may require special treatment by a colleague. Anti-tetanic serum should be administered routinely in all of these cases. After the area has been tanned, the patient is left alone; no dressings are applied; and heat radiation is combatted with the electric cradle. Pathological syndromes are treated as they occur.

TREATMENT OF THE DEHYDRATION: One can detect this dehydration if repeated red blood counts and hemoglobin determinations are made. This is treated by the administration of plenty of fluids; and they may be given by mouth, water, and fruit juices. In the more severe cases this will be insufficient. Therefore it is wise to begin with a good sized blood transfusion; and this may be well followed by the administration of normal saline intravenously. Fluids may also be given per rectum in the form of normal saline, soda bicarbonate solution, or both. If this is continued for any length of time, tap water is worth while as a substitute to prevent irritation. The amount of fluid recommended by authorities is about one hundred cubic centimeters per kilogram

of body weight (one litre per twenty-five pounds of body weight). Again, the repeated red blood count and hemoglobin determinations indicate whether or not the dehydration is in advance of the fluid administration. The observation of the hemoglobin percentage is a good prognostic agent; it has been found that an increase of forty per cent, if maintained for any length of time, is incompatible with life. When it reaches one hundred and twenty-five per cent of normal value, life is precarious.

Administration of fluids may be overdone; therefore I do not agree with Harris and Gallie of Toronto in the continuous intravenous administration of fluids. During the first forty-eight to seventy-two hours, the patient is not able to handle quite as large a quantity of fluids as we formerly believed. The occurrence of oedema is a signal to discontinue the administration of fluids. The nurses are instructed to report pitting at once. During this early period we have noted that there is an increased permeability of the capillary bed, not only at the site of the burn but throughout the body. There is also a renal depression, which may be due to oedema of the tubules. This renders the individual unable to excrete large quantities of urine. This renal depression seems to last for about three days, after which the urinary output increases markedly. Therefore in the laboratory investigation, the total twenty-four hour urine output is an important check. While the kidney output is low, the administration of glucose or chlorides is of great value in making it rise. If in doubt transfuse the patient instead of giving so much fluid.

TREATMENT OF THE TOXEMIA: Prophylaxis is the most important item under this head and we know of no better method than that of converting the mass of dead burned tissue into a hard leathery mass from which absorption is difficult.

Because of the extent of most burns, their site, or the shocked condition of the patient, excision of the burned area is not feasible as a general measure unless the area is small.

With the use of tannic acid, the cases which develop toxemia are not numerous, unless the extent of the burn is so great as to bring the case among the hopeless class. But where the toxemia does develop, even with the tanning method, the situation is grave.

The only method which has had any results in the saving of life after severe toxemia has set in is that of exsanguination—transfusion.

This method was developed in Toronto by Dr. Bruce-Robertson. It has been noted that the toxin is closely associated with the red blood cell. Therefore as much blood as possible is removed at the height of the toxemia and this is replaced with normal blood. The operation is carried out in three stages: firstly, a stage in which as much blood as possible is removed from the patient; secondly, a stage in which blood is transfused into the patient while the withdrawal of the blood is continued; and finally, a stage in which exsanguination is stopped and transfusion is continued until the patient's blood is made up to normal volume. The efficiency of this washing out depends upon the amount of blood exchanged during the first and second stages of the operation, and this in turn depends upon the amount of blood available from donors. This method reduces the mortality from toxemia by one half. But it has serious limitations for it removes only that portion of the toxin which is circulating in the blood, it does not modify in the least the production of toxin. Therefore it can never replace tanning, but is used only for toxemia already produced. Unless tannic acid is resorted to, the procedure would have to be repeated as more toxin is liberated. An enormous amount of blood is required; therefore it can only be used in children; in older cases it is impossible to get enough blood. The procedure can only be carried out in the surgical amphitheatre by an experienced team of operators. It has been estimated that as much as twenty-five to thirty-five c.c. of blood per pound of body weight may be required. The site chosen is usually the superior longitudinal sinus or the saphenous vein as they allow a more free flow of blood. Again, it is repeated that this method is only used after the toxemia has developed; it is not a preventive measure. It is the only method we know which can lower the mortality rate after severe toxemia has set in.

In adults, or in cases where we cannot use the exsanguination-transfusion method, general care plus the administration of fluids, plus measures to favor elimination are the usual measures available. In these cases, also, the results of blood transfusion are sometimes remarkable.

The importance of adequate treatment during the first three days must be stressed; the value of excellent nursing care can not be overestimated. It has been found that by far the greatest mortality, particularly in children, oc-

curs between the end of the first and the end of the third day. By this time the pain has usually been controlled, and the morphine can be replaced by the coal tar derivatives and barbiturate compounds, the latter being particularly indicated to overcome the insomnia and apprehension which are both rather marked in a severe case. A continued low blood pressure is to be controlled by the administration of adrenalin or ephedrin; digitalis is used if myocardial weakness becomes evident.

THE TREATMENT OF SEPSIS: Under this head there is a great deal of controversy and much clinical judgment is necessary to determine the exact *modus operandi*. After the initial temperature rise which usually takes place within the first twenty-four hours, the temperature drops to normal or only slightly above, when the burned areas have become thoroughly tanned; it then remains at this level for five or six days. In the deeper burns, some exudate begins to form beneath the crusts between the sixth and eighth days, as is evidenced by a rise of temperature, a sense of fluctuation beneath the crusts, malaise, and sometimes delirium. It is at this point that I believe that Glover and others are correct in interfering with the status of affairs; I do not believe that Davidson is quite right when he claims that interference causes a so-called secondary toxemia.

I believe that the coagulum should be loosened at this time, and the best solution I have used is the old fashioned Dakin solution. This must be used fresh as it is an unstable type of antiseptic. The method of instituting continuous moist warm dressings is not to remove the dressings every two hours or so and then apply warm moist dressings again. This irritates the area, the patient, and the doctor. Simply cover the area with dressings moistened with Dakin solution. If the area is large use a series of Dakin tubes so that the whole area can be efficiently irrigated. The normal skin is adequately protected with sterile petrolatum. A heavy layer of absorbent cotton may be banded over the gauze. This whole is then covered with an impervious sheet of gutta percha or oiled silk to prevent evaporation; the coagulated areas being kept moist at all times. An electric cradle or tent keeps these dressings continuously warm, and therefore the old stuping method is not required. These dressings are moistened every two to three hours by means of a Dakin syringe inserted through a small hole or small holes made in the impervious

covering. If the series of tubes have been used, then the Dakin syringe nozzle is inserted in certain of the lead tubes to irrigate the whole area. Dressings are changed every twenty-four hours.

This type of dressing is continued until the coagulum is all off and the granulating areas are clean and ready for grafting or are healing rapidly with epithelial islands which were not destroyed by the burn. The initial application is usually accompanied by a sharp rise in temperature, followed by a drop to a little above normal within twenty-four hours. A swinging temperature between this level and the normal then continues until the coagulum and necrotic tissues are all off. If the burn be a superficial one, the coagulum will be off in two to three days. However, in the deeper burns, where the skin is completely destroyed, it will take several weeks. It is important that the normal skin be protected with petrolatum, otherwise the constant use of the Dakin's solution will cause a painful dermatitis. When the coagulum is all off, there remains a granulating wound with or without epithelial islands; the use of a single layer of sterile vaseline gauze, covered with a dry dressing, remains the simplest and most efficient form of protection. If the vaseline gauze is applied before the necrotic tissue has all separated, sepsis is favored rather than retarded.

Davidson has used boric acid instead of Dakin's solution and he noted a secondary toxemia, which he thought was due to a release of toxins. As has been noted, there is a sharp initial rise in temperature, but this is followed by a drop, and as soon as the coagulum has been entirely removed the temperature becomes normal again. Glover has used the above method without evidence of any severe toxemia. Of course, where boric is used, there may be absorption of this; and also it has a low bactericidal value. Where the Dakin's solution has to be continued for a long time, there may be a burning sensation due to irritation; here we substitute saline solutions. This will usually allow some rise in temperature which drops again when the Dakin's solution is resumed.

Both Seeger and Lee have emphasized this infection which occurs under the coagulated membrane. If there are any signs of sepsis, they recommend that the coagulum be split and portions removed in order to establish drainage. Lee, during the tanning process, checker boards the area by making incisions so that two inch squares of tanned membrane are formed.

THE TREATMENT OF THE GRANULATING WOUND: By the time that this stage has been reached, the patient has passed through a series of trying syndromes and is somewhat exhausted. Moreover, a profound secondary anemia is apt to develop, which makes them less apt to resist intercurrent infection. Therefore, I would advocate the immediate grafting of the area just as soon as the granulations assume a somewhat healthy appearance. Parathiocresol seems to have a stimulating effect on the granulations. The use of vaseline gauze is excellent while waiting for the sloughs to all clear off; but once grafting is anticipated, I have found it best to remove these dressings and apply parathiocresol, or saline, or Dakin's solution dressings. The common practice of using picric acid ointment should be condemned; it not only has a toxic value, but (and this is true of all ointments) these unguents have the property of interfering with the immediate removal of drainage, and they also produce a poor type of granulation tissue of a slimy nature.

Immediate grafting of the area is advised for many reasons. Once the area is grafted, no further dressings will be required, and with due respect to all concerned there is no ideal dressing for a granulating wound at present. The economic hardship for the patient is over. In a practice devoted to state and industrial work primarily, I have found this factor very important. We have no accurate method of gauging the time which will be required for an area to fill in of its own accord. Recently, I treated a case seven months after the onset of the burn, with practically no attempt at epithelialization. This was completely covered in one month from the time of admission to my service. Another important factor which is ignored by the profession is that granulation continues to form in an open wound until it is covered with epithelium. Delayed epithelialization therefore results in an excessive fibrosis. This in turn cuts off the blood supply and retards healing towards the center of the granulating area. There is more apt to be the formation of contracture deformities with its consequent loss of function. In rare cases, years later, it may be the cause of a malignant change. This fibrosis can be kept at a minimum and healing greatly hastened by the immediate grafting of the area. Therefore graft just as soon as the granulations are somewhat healthy. In most cases, by the end of the third week, the area is ready for grafting.

PRINCIPLES OF GRAFTING BURNED AREA: The subject of plastic surgery is not being entered, a mere outline is given as to what should be done. The exact *modus operandi* will depend upon the degree of ulceration, the age of the wound, the condition of the patient, and the facilities for work.

If we have a rather deep but small wound, and it is over a bony prominence, it has been our practice to use a graft which brings along with it a large subcutaneous substratum. Free full thickness grafts require that the granulations be perfectly healthy. Therefore, pedicled grafts have been favored. The double pedicled or tube graft is the one which has given the highest percentage of takes in the writer's experience. It also gives much less discoloration than the free full thickness graft.

If the wound is not over a bony prominence, or if it is of larger dimensions, the small deep graft of Staige Davis is preferred. Even where it is definite that there is going to be a deformity, this grafting is still performed for the purpose of obviating any need for dressing, and therefore lessening the chances for toxemia and sepsis. It has also been determined that if deformity does occur after this grafting, it is usually minimal and can be more easily handled later for then we can be dealing with a sterile field. By using the small deep graft we do not have to worry about the field being absolutely sterile (which would be required for the other grafts). The small deep grafts, under proper technic, will take in ninety per cent of its field, even when some infection is present.

Blair advocates the use of large split skin grafts of intermediate thickness. Their use is attended with great success but it has been my experience that they need a clearer granulation tissue than we have worked upon and this would mean further delay.

THE TREATMENT OF OLD UNHEALED BURN: In the work for the Crippled Children Commission, cases are encountered which have been allowed to run on with enormous large granulating wounds. In many instances, ointments of various kinds have been used (especially, the picric acid ointment) and as a result the granulation are slimy, dirty, heaped up in some places, and deficient in others. The morale of the patient has been lost and their care is a problem. Extreme gentleness during dressings is essential; every effort should be made to make them as painless as possible.

The routine is to remove all dressings as

soon as the patient enters the ward; he is placed on sterile sheets; and the electric cradle is applied, which is kept at about one hundred degrees. This allows the granulations to dry and shrink; checks absorption and infection; and the patient is allowed a day or two of rest from all wound irritation. These cases have profound secondary anemias, and therefore they are immediately transfused. After a day or two or even more, continuous warm moist dressings are applied in the manner described before. The following solutions are all good: Dakin's solution 1:5000 pot, permanganate; acriflavine; normal salt solution; hypertonic salt solution (five to fifteen per cent); glucose solution (twenty to forty per cent). At times the patient will complain of one and not the other.

Antiseptics like five per cent Gentian violet or two to five per cent mercurochrome are sometimes useful when sepsis is present. To shrink overabundant granulation tissue, gauze (plain), bismuth or iodoform gauze saturated with sterile glycerine have been recommended. Regarding the use of ultra-violet rays: if a bactericidal effect is desired, the mercury vapor lamp is recommended with high dosage, but the treatments should not be continued any length of time. If what is desired is a general tonic effect the actinic rather than the bactericidal rays are required. For this, the carbon arc is perfectly adequate and the dosage should not be as great but it should be long continued for any effect to be noticeable.

The area must be covered just as quickly as is possible; the indication here is much more imperative than it was in the fresh case. Full thickness grafts and pedicled grafts are out of the question because the patient cannot stand an anaesthetic and the area is none too clean. It is undesirable to prolong the covering of the area, and so we desire to work just as soon as the granulations are in a half decent condition. Moreover, the area may require so much skin as to make it impossible to procure it. Here again, it is believed best to use the small deep graft of Staige Davis. This is done in several stages. The small deep graft is not replaced by scar after healing; they remain as permanently definite patches of skin. The amount of contracture in the healed area can be cut down to a minimum, especially if the grafts are fairly close together. The result can be made soft, pliable, and moveable with physiotherapy.

Therefore, as soon as the granulations are

in a satisfactory state, the small deep graft is performed. Inasmuch as the health of the granulations vary from place to place in this wound, the grafts are scattered over the whole wound in suitable areas. A reasonable portion of these will take and stimulate the remainder to heal. The presence of the grafts, even though they do not take, stimulates the area and makes re-grafting more certain of success. Eventually the distance between grafts is 0.5 to 1 cm.; successive grafts having been placed between those previously applied.

TREATMENT OF THE SCAR AND CONTRACTURE: By following out the above principles, it is believed that the amount of scarring will have been cut down to a minimum. As soon as the area is covered, the proper splinting must be instituted to prevent the formation of contractures. Physiotherapy in the form of heat, whirlpool baths, massage can do a great deal to loosen up the cicatrix and make the new skin more moveable. A patient is under supervision for at least six months after the area has been all covered. Prophylaxis is much more important than cure of contracture.

In cases where contracture has developed, these cannot be safely overcome by any sudden force, such as manipulation under anesthesia, because of the possible injury to the shortened blood vessels and nerves. The bones are usually atrophied and may fracture easily. Traction splints are the means available for the gradual correction of these contractures, where this is possible without an operation. Physiotherapy is an important adjunct.

TREATMENT OF OLD CONTRACTURES: Before operative interference is instituted, simple physiotherapeutic measures are instituted to attempt to loosen up the scar. The exact modus operandi will depend a great deal upon the extent of the scar, the operator, and the facilities at his disposal. Here the small deep graft has no place at all.

The types of plasties used are the split skin graft; the free full thickness graft; the pedicled graft; the tube graft; the gauntlet flap. All of these methods give excellent results. At times, we can use various shifting procedures of the scar tissue itself without excising it. One such method, the so-called "Z" flap plasty is as old as the history of skin plasty, but it frequently goes under the name of the Pieri skin plasty after the surgeon who popularized it. Here no graft is used at all, but by making our incisions

PRESIDENT'S PAGE

SALINA MEETING

To the Members of the Kansas Medical Society:

The Kansas Medical Society will convene for its 77th annual session at Salina on Wednesday, Thursday and Friday, May 8-9-10, 1935. Twice before has the Saline County Medical Society been host to the State Society, and we who have attended these previous meetings, know that Salina will spare no effort to make this meeting second to none.

Immediately following the last annual session, the local committees were named with careful thought as to the fitness of each man for his job, and these committees have worked overtime in planning and perfecting all arrangements for the success of the meeting.

As a result of these efforts, the committees have procured an outstanding program. Ten guest speakers, representing the various branches of medicine, have been secured. These men are not only well known in our own country, but have also acquired international fame. Each of these men will appear on the program two or more times.

The excellent scientific exhibits will be of unusual interest and great educational value. We urge you to spend some time in this section for it is a splendid opportunity to enrich your medical knowledge. We feel certain you will come away from the meeting with the thought that you were well repaid for the time spent at the scientific exhibits.

The technical exhibits will also be interesting, showing the latest modern instruments and appliances, drugs, biologicals, books and foods, demonstrating the continued advance in the medical supply industry. These exhibits will be worth your time, and you owe it, not only to yourself, but to the exhibitors who have been so generous with their contributions.

By way of entertainment there will be the usual golf tournament and in addition to this a trap shoot, which is a new feature. Prizes will be awarded. Both of these events will take place on Tuesday, May 7. On Thursday, May 9, there will be a banquet, followed by entertainment and dancing. Friday night, May 10, a public meeting will be held in the Masonic Temple Auditorium. Dr. George W. Crile and Dr. William D. Haggard, both of whom are eloquent speakers, will address the

meeting. It will be the regret of your life if you fail to hear them.

In addition to these events to which we have referred, the ladies have made extensive arrangements for the entertainment of the visiting wives and daughters.

Most of the county societies have been visited by speakers sent out by the Saline County Medical Society to acquaint them with the special features of the program and to urge their attendance at the meeting. However, a good story always bears repeating.

Salina, founded in 1858, is a beautiful city with a population of, approximately 21,000, centrally located and easily accessible by rail or highway. It is a hospitable city and has much of interest to offer its visitors.

First of all, we must take our hats off to the Chamber of Commerce, a wide-awake, aggressive organization. For it was through its cooperation with the Saline County Medical Society that we were invited to Salina. And it was the Chamber of Commerce that extended the invitation to the Kansas Medical Society.

Salina has a number of manufacturing industries, foremost of which is its flour milling in which it ranks sixth in the United States. It is a large wholesale distributing point for central and northern Kansas.

Salina has an excellent school system of twelve grades with kindergartens, a junior and senior high school, and in addition to these there is a parochial grade and high school. Here also are located Kansas Wesleyan University, Marymount College, St. Johns Military School and a Business College.

Salina has twenty-one churches, representing many denominations of the Christian faith; it has a Y.W.C.A. and a Y.M.C.A., and a splendid public library containing about 23,000 bound volumes, and two modernly equipped hospitals.

Salina has wonderful shade trees and well paved streets, two country clubs with eighteen-hole golf courses and five beautiful parks containing more than 185 acres and several miles of park drives. These parks have installed modern playground equipment and there are swimming pools, tennis courts, and an auto speedway.

The daily newspaper, the Salina Journal, is a live, progressive publication holding the world's circulation record for cities of 20,000. It has always been liberal in giving publicity to

EDITORIAL

AUTOMOBILE ACCIDENT DEATHS

Years of altruistic study and research on the part of the medical profession has resulted in many benefits to humanity. So broad and irrefutable a statement is dull in itself, but when we reduce it to a limited field, time and location, it begins to bristle with interest.

A comparison of certain mortality causes in Kansas shows in 1921 there were 382 deaths from diphtheria and 155 from typhoid fever—a total of 537 deaths from two preventable diseases alone. In the same year, there were 154 automobile accident deaths.

In 1934 the comparison is startlingly reversed, with only 64 deaths from diphtheria and typhoid fever, and a total of 482 resulting from automobile accidents.

Due to advances made in scientific medicine, decreasing both cases and deaths from typhoid fever and diphtheria, these diseases are now minor factors in morbidity and mortality as compared with years ago. On the other hand, automobile accidents, theoretically under the control of drivers or pedestrians, have become a seriously increasing cause of death, and a difficult problem.

The fact that more than ninety per cent of the fatal accidents occur in good weather bolsters the theory that automobile accidents are controllable. In 1934, only thirty-six fatal accidents were reported to have occurred during unfavorable weather conditions. This seems to prove conclusively that deaths from motor cars are largely avoidable, since rain, mist, snow and fog actually reduce fatalities to an amazing minimum. What would normally be considered a driving hazard is in reality a safeguard.

Another proof that motor vehicle accidents are, for the most part, humanly controllable, is that the 1934 data show fatalities from reckless driving in a great majority over other causes.

There were 131 pedestrian deaths in Kansas in 1934; 147 fatal injuries due to collisions of motor vehicles; 117 persons killed in non-collision accidents (27 the result of mechanical defects), and 77 deaths due to collisions with fixed objects. Of the pedestrian deaths, 58 were the fault of the persons killed.

Among the fatal injuries, fractures of various types were the most frequent cause of

death—nearly fifty per cent of which were fractures of the skull, as, of the 310 injuries in this group, 235 were skull fractures.

Insofar as automobile accidents are concerned, the popular belief that "forty is the dangerous age" is proven to be a fallacy. The highest number of deaths for males was from twenty to twenty-five years of age; this group far exceeded any other five-year period from one to ninety years. Female deaths, which were much less than male deaths, were greatest between the ages of fifteen and twenty years. In 1934, a total of 349 males were killed and 133 females lost their lives in motor car accidents.

In addition to the 482 deaths, 456 persons received non-fatal injuries in the 460 fatal accidents.

The week-end takes the greatest toll of lives—Sunday heading the list of all days in the week. Obviously this is the result of more motor cars in use than at any other time.

Certainly we are facing a serious and growing problem in the rapid increase of deaths from automobile accidents.

Medical science has done and is doing much to reduce and control disease and death-producing germ life.

What a boon it would be if similar means could function for the prevention of motor vehicle accidents—if it were possible to inject into the human race a much-needed inoculation of common sense.

EARLE G. BROWN, M.D.

LEGISLATIVE RETROSPECT

The Kansas legislature, during its last session, passed several laws of benefit to public health, and refused to pass others likely to result in detriment. Altho members of the medical profession recognize that fact, yet they regret that the legislature failed to pass a most important measure—Senate Bill 31, a basic science bill which would have helped materially to raise standards of all those engaged in the healing arts. This measure was shunted aside in the closing moments of the session.

Political pressure was largely responsible for the failure of the legislature to consider the very obvious merits of Senate Bill 31. Under the law, all healing applicants would be required to pass an impartial examination, given by an unbiased board composed only of college

professors and representatives of fields of healing, in essential subjects. Certain cults were unwilling to raise their standards enough for their followers to pass the examination. (There is still some difference in the way anatomy and physiology look to a physician, a chiropractor, and an osteopath.) "Scientists" who rub and knead the body feared the supervision of doctors of philosophy and other scientific men. Many are the practitioners of healing who have no intention of airing their educational qualifications! The sacred right of licensure, said these men, should not be tampered with. Bill 31, they argued, was but another step in medicine's odious campaign to monopolize healing. Base scientists were behind the basic science bill.

Foes of the bill prevailed upon persons unfamiliar with the scope or intention of basic science laws to sign petitions denouncing a law that would "repeal the law of chiropractic," that would place other professions "under the control of organized medicine." Others were persuaded to write and telegraph protests against revoking present licenses. Statistics, purporting to prove that certain groups had been unable to pass basic science examinations elsewhere, were cited to show the unfairness of the laws! In the end, enough pressure was brought to bear to prevent the legislature from taking a stand either way.

As a result of the activities of foes of Bill 31, Kansas will have two more years under antiquated regulations for healing. Kansas will continue to be the Promised Land for poorly trained cultists, who may continue their regime of learning basic science from patients rather than from schools.

This is to be regretted, but it is even more regrettable that those engaged in a profession as vital as caring for the sick should take the stand adopted by opponents of the bill. We are glad that medicine is not on that side of the fence. Our hats are off to Senator Henry Diefendorf, our legislative committee, our executive secretary and members for a well-presented campaign in behalf of this vital measure.

THE STATE MEETING

Elsewhere in this issue you will find much about the coming State meeting. For many reasons the Salina meeting is especially stressed.

A review of the program should be sufficient to create a desire to attend. The men who are giving papers are of national reputation and the subjects which they have chosen are of especial interest. They should contribute much to sharpen our mental equipment.

Our present economic condition will occasion much discussion and will probably bring forth some important decisions from the House of Delegates. These problems are of profound interest to most of us and should receive our best thoughts.

We are told that the commercial and scientific exhibits will be far above the average in interest and instruction.

Salina is centrally located, easily reached from all parts of the state, has unusual convention facilities and a live County Medical Society. All of these features will make your stay pleasant.

Most physicians invest too little in post graduate instruction. We become worn into our own grooves and too set in our methods. Here is an opportunity for self improvement, better service and good entertainment at a nominal cost. If you cannot stay the three days plan a day or two but go to the State Meeting!

Walter Bauer, Boston (J.A.M.A., Jan. 5, 1935), points out that the first requisite in treating each patient with skeletal symptoms is to determine whether or not the symptoms are due to arthritis and, if so, to determine the type of arthritis. Not until this has been done should one attempt to prescribe a diet. There is no specific diet for patients with arthritides of known origin other than the dietary which would ordinarily be prescribed whenever the particular disease or etiologic agent responsible for the arthritis is dealt with. Gout is the one exception. Degenerative and rheumatoid arthritis represent the diseases one ordinarily thinks of as chronic arthritis. They are not causally related or due to the same etiologic agent. In degenerative arthritis, diet is indicated only in the presence of obesity, and then it should be sufficiently low in calories to allow weight reduction but adequate in every other respect. There is no evidence to prove that a low carbohydrate diet is indicated in rheumatoid arthritis, nor is there any proof that it is efficacious in curing the disease. Patients with rheumatoid arthritis should eat a diet high in calories (unless they are overweight), high in vitamins and adequate in respect to calcium, phosphorus and iron.

LABORATORY

BLOOD CULTURES AND WIDALS IN TYPHOID

CORA M. DOWNS, PH.D.*

Lawrence, Kansas

In a consideration of the laboratory diagnosis of typhoid fever two of the most important procedures are the blood culture and the Widal test. The blood culture is the earliest and the most unequivocal test which can be made in typhoid fever. Organisms may be isolated from the blood in eighty-nine to ninety-three per cent of cases during the first week of the disease, seventy-three per cent during the second week and thereafter less and less frequently. At least five c.c. of blood should be withdrawn aseptically and added to ten to twenty volumes of a suitable medium to provide for dilution of the natural bactericidal property of the blood. The finding of typhoid bacilli is diagnostic since they do not occur in the blood stream except in infection, whereas the Widal test may be positive following vaccination or in the carrier state. If, on the other hand, a culture taken during the first week is negative, it would be wise to repeat the culture in a day or two using larger amounts of blood.

The Widal test as it is usually done consists of a series of dilutions of the patient's serum mixed with an equal quantity of the following antigens: *B. typhosus*, *B. paratyphosus* A and *B. paratyphosus* B. The patient's serum is usually diluted to one to forty or fifty, and one to eighty or one hundred. If one or more of the organisms used as mentioned above agglutinate at one to eighty the test is considered positive. The test may be macroscopic or microscopic and various temperatures and times for incubation have been recommended. There seems to be some unanimity of opinion that fifty-five degrees Centigrade for one to four hours is the best temperature and time for incubation. There has been no uniformity as to the kind of antigens used. The organisms were frequently stock culture, sometimes of doubtful authenticity. Living, heated, formalized or phenolized suspensions were usually used.

In the last ten years much has been done on the different antigens present in *B. typhosus* and the paratyphoids. It was found that each

of the organisms possessed several antigens which could be separately studied. *B. typhosus* was found to have an antigen associated with the flagella which has been designated as the "H" antigen. Cultures which had become non-motile or which had been heated to seventy degrees Centigrade or treated with chloroform lacked this "H" antigen. Cultures which were virulent and gave smooth colonies on agar had an antigen in the cell which was designated as the "O" antigen meaning "ohne" or without flagella. The "O" antigen chemically seems to be made up of a carbohydrate and a nucleoprotein which has been called the "Ø" antigen. Cultures which had lost their virulence and which produced rough colonies on agar had lost the carbohydrate portion of the "O" antigen but retained the antigenic properties designated as "Ø". We have then four possible combinations as follows:

H+O=Normal virulent motile typhoid bacilli

O=Normal virulent non-motile typhoid bacilli

H+Ø=Rough avirulent motile typhoid bacilli

Ø=Rough avirulent non-motile typhoid bacilli

The antigenic differences observable in these different forms had considerable bearing on the Widal and on the question of what strain should be used for vaccination. Felix in 1924 found that "H" agglutinins developed much more abundantly following vaccination than the "O" agglutinins, the latter developing to high titers during an attack of typhoid fever. This seemed to offer a way to differentiate between the agglutinins which might be present as a result of vaccination and those actually due to an attack of the disease and would therefore increase the value of the Widal as a diagnostic aid.

Mudd¹ in a careful study of the Widal test in a group of persons having typhoid fever, a group of vaccinated persons and a series of normal controls has shown that the titer of "O" agglutinins may rarely reach 1-320 in vaccinated persons, and frequently no "O" agglutinins or only small amounts are present. On the other hand persons suffering from typhoid fever showed agglutination for "O" agglutinogen in dilutions of 1-160 to 1-1280, the majority being above 1-160. The vaccinated group gave agglutination with "H" agglutinogen in titers of 1-320 to 1-2560. These findings are also confirmed by Dulaney² et al, who find that typhoid vaccination stimulates the production of "H" agglutinins to high titers and "O" to much lower titers. They recom-

*Department of Bacteriology, University of Kansas.

mend that dilutions of 1-500 of "O" agglutinins be considered diagnostic for typhoid fever. Feemster³ has reported that persons having typhoid fever or having been previously vaccinated responded with very active agglutinin production when they were subsequently inoculated with typhoid vaccine. Vaccinated persons frequently showed agglutinins for as long as two years following vaccination. It seems quite certain that any kind of an infection may stimulate the appearance of agglutinins for typhoid in a previously vaccinated person. It is therefore of considerable importance to be able to distinguish by means of the Widal between these agglutinins and the agglutinins due to an attack of typhoid fever. It would seem reasonable that the antigen used for the Widal test should be an "O" antigen rather than an "H" antigen. That is, it should be a heated or an alcohol treated suspension. It should be prepared from a smooth culture since "O" agglutinins may not act on a rough strain containing the "Ø" antigen only. The Rawlins strain which contains both "H" and "O" antigens may be used satisfactorily but a more purely smooth strain such as 0901 containing the "O" antigen would be better. The dilutions of the patient's serum should be carried to 1-1280 and the incubation should be at fifty-five degrees Centigrade for at least one hour.

The Widal test using the "O" antigen is unfortunately open to the objection that there is somewhat more cross agglutination in typhoid cases with Para A and B than there is when a living motile culture is used. Mudd reports that eight out of nine typhoid cases gave a positive Widal with Para A and B "O" antigens where as with living culture four of the nine gave positive reactions with Para A and five of the nine gave positive reactions with Para B. The titer in all cases was, however, higher with the infecting organism, that is, *B. typhosus* than with the paratyphoids.

A procedure which gives greater diagnostic value to a positive Widal is the repetition of the test a week or ten days after the first positive test. If the patient is suffering from typhoid fever the agglutinin titer should be higher than it was in the first test.

In view of the prevalence of vaccination and of the recently discovered factors as discussed above it would seem reasonable to make the following recommendations:

1. A smooth strain of typhoid should be used as antigen. Two antigens should be pre-

pared. A living culture and an alcohol treated culture, the latter to enable one to distinguish between "H" and "O" antigens.

2. The patient's serum should be diluted from 1-40 to 1-2560.

3. Incubation should be one to four hours at fifty-five degrees Centigrade.

4. The microscopic Widal using low dilutions of the patient's serum and living organisms should be discarded.

REFERENCES

- Mudd, Stuart. *Jour. Immunol.*, 1932, XXIII, 81-90.
 Dulaney, A. D., Wickle, W. T., Stewart, R. L. Rayfield, J. D., Walker, J. K. Preacher. *A. B., Jour. Immunol.* 1933, 24, 229.
 Feemster, R. F. *Jour. Infect. Dis.*, 1932, 50, 121.

MEDICAL ECONOMICS

In keeping with times wherein certain economic factors are of importance to the practice of medicine, the Journal has added a section on medical economics. Supervision will be by the Society Medical Economics Committee, and material presented will consist of articles, abstracts, and discussion offering information or remedies pertaining to current problems. Contributions and comments are invited from members at all times.—Editor's Note.

The Medical Economics Committee in a meeting of March 6 recommended that each county society appoint a committee or committees on economics. It was believed that these committees could study plans and information to be forwarded by the Society committee, that recommendations could be made to the various county societies as to the local applicability of such plans, that many local problems could be facilitated thereby, and that many valuable suggestions could be offered for assistance to the Society Committee. A further suggestion was that societies comprising more than one county to make local consideration more possible, could select separate or sub-committees for each county from which they have members.

"WILL AMERICA COPY GERMANY'S MISTAKES?"

An interesting article, captioned as above, has been received from the Medical Society of New York, which organization in conjunction with the Pennsylvania Self-Insurers Association employed Mr. Gustav Hartz, a labor economist of Berlin, Germany, to write an accurate and fair portrayal of what social insurance in general, and health insurance in particular, has accomplished for Germany. The article, too

lengthy to print in verbatim form, is abstracted below, and copies will be forwarded upon request to any members interested.

Mr. Hartz in summarizing his findings states that social insurance has largely been responsible for the present plight of Germany, and warns America against following its apparent benefits which ultimately lead into economic fallacies. All social insurance, he says, is unemployment insurance. That "to consider unemployment insurance an achievement of recent years, to call it the 'crown of social insurance' is a mistaken view for every social insurance pertains to unemployment whether such is due to illness, accident or incapacity, old age, or to being out of work."

The first part of the report is devoted to "Reasons for Introduction of Social Insurances" wherein is outlined the condition of Germany fifty years ago, with low wages, no resources to fall back upon, loss of jobs and existence of dire want. There was seemingly no assurance as to what the future would bring. The state wishing to stop this unrest turned to social insurance. The common supposition was that every contingency of life was to be provided by social insurance. A social upheaval was to be a thing unknown but the tables turned and the result is now evident. "The so-called self-administration of social insurance by the circles concerned, did nothing to improve the situation. Discontent and grumbling did not cease, it grew. This arose from the social insurance principle, which is only able to grant a minimum, and the odium of the insufficiency accompanying it, in connection with which the saying was coined: 'too little to live on and too much for starving.' From the very beginning the social insurance legislation was scoffed at by the radicals who called it 'Beggars' soup politics' and they never ceased demanding an increase of the allowances." The result of the promises and plans of state political groups was as follows: Unemployed increased rapidly in number and employed workmen still paying premiums diminished; premiums went up; wages were cut; allowances continually decreased.

Under health insurance sick days increased from $5\frac{1}{2}$ to 28 per worker per year. There was no way of telling just how sick a patient might be and no way of fixing the duration of an illness. It was the most incalculable risk in existence, as there was no scale by which to judge. It was difficult for a physician to diagnose

correctly and to distinguish pretenders from really sick people or to determine whether the man was in fit condition to carry on with his work.

Mr. Hartz gives as the provisions of health insurance the following: "The sick insurance provides the workmen with medical attendance free of charge, with medicine and other necessities, and with an allowance." This was thought a great blessing for the workman but the thing not reckoned with, is the desire and craze for money which led the patients to go back to a doctor a dozen times, where once would have been sufficient, and the insurance paid. Medicines obtained lay around until they were useless and the insurance paid.

When Sick Benefits Come in Handy: It seems improbable that a man would be contented with fifty per cent of his wages when he could receive the whole by working, but when holidays, fewer shifts, less work and shorter hours, frosty weather, outdoor work, were all taken into consideration, the fifty per cent wage was a welcome alternative. Patients were sent for medicines to cure their illness and obtained toilet soap, perfume and luxuries.

Physicians Driven to Mass Practice: "Mass demand compelled a limitation in the use of medicines. Doctors must not prescribe what they consider good for the patient, they only being allowed to give remedies entered in a book of medical regulations for insurance purposes. The insured workman becomes a second class patient."

Goal Is to Make All People Pensioners: Mr. Hartz claims that state pensions means the death of all will to work and all personal ambition. "Social insurance has produced an unbelievable number of questions and problems hardly fathomed by the uninitiated, who face them quite helplessly.

"Social Insurance is distinctly a system that eats up and wastes capital. If it were based on adequate capital and reserves the premiums would be so high that there would not be enough money in the world to pay them."

Medical Policemen Now: "Confidential Doctors" controlled not only the patients but the fellow doctors who were treating them and were therefore medical policeman. "The genuine patient is justly indignant to find that the existence of his illness is doubted, and that he who has always paid his premiums regularly and has a right to demand conscientious attendance, is considered a cheat. This system,

together with the rest of the bureaucratic apparatus has wedged itself between doctor and patient, completely destroying the patient's confidence in his physician, which greatly retards all recovery."

Scandals of Administration: The squandering of money, involvement of physicians, dentists, chemists, and sometimes employers, in some scandal or embezzlement charge, and deducting the premiums from the workmen's wages without paying them to the insurance fund, was all a part of the social insurance plan to help the day laborer. All this was carried on at the workmen's expense, as he bore the part supposedly paid by the employer, whose share was about ten per cent of the wages and one of the most vital expense items of the economic system.

Unemployment Insurance Not for Idle: "Social insurance has nevertheless taught one good: Every worker must use part of his earnings to protect his future. Instead of an insurance card the workman would have a bank book, the best way of giving him a sense of responsibility."

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our meetings, both before and during the session.

Salina has six modern type hotels offering many single rooms with bath and some suites. All hotels are located adjacent to the business district and within walking distance of the general assembly. There are many rooming houses, fraternal clubs and private homes affording hundreds of rooms for visitors.

As a shopping center Salina holds an enviable position. It has over two hundred retail establishments with large stocks of up-to-date merchandise from which the shopper may select the latest in fashion, fad or fancy, or whatever his need may be.

We have endeavored to tell you some of the salient points of the meeting and a few of the interesting facts about Salina. We hope we have aroused your enthusiasm for both to the extent that you will come early, bring the good wife, and remain until after the public meeting on Friday night when the curtain falls on the last act of the 77th annual session of the Kansas Medical Society. Meet me in Salina!

J. F. HASSIG, M.D., President.

MEDICAL LITERATURE

Edited by William C. Menninger, M.D.

DEATH FROM SURGICAL PROCEDURE IN A PREVIOUSLY "CURED" AGRANULOCYTIC ANGINA

Bryant reports a case of granulocytic angina which although it had previously been reported as "cured," following the extraction of nine teeth developed chill, fever, gangrene of the gums, cellulitis of the neck, and broncho-pneumonia, dying five days afterward. He stresses the point that all patients who have had this disease should avoid rigorously surgical procedures which concern mucus membranes of the body and further that they should carefully attend to any spontaneous lesions of the membranes which may occur, no matter how insignificant they may be.

Bryant, B. L.: Agranulocytic Angina: Further Report on a Case with Fatal Outcome Following Oral Surgical Treatment. *Arch. Otolaryng.* 20:665-667 (Nov.) 1934.

SINUSITIS IN PNEUMONIA

Campbell of the Department of Otolaryngology in the University of Pennsylvania studied 130 patients with pneumonia between the ages of three weeks and ninety years, and found that sinusitis was present in one hundred per cent. The diagnosis in these cases was made in 120 by means of the nasopharyngoscope and in the remaining ten by roentgenograms. Acute purulent otitis media was found in seventy per cent of the 130 patients. It is suggested that the infected sinuses are a possible etiological factor in the production of the pneumonia and that early efficient removal of purulent secretions from the sinus by suction might tend to lessen the incidence of pneumonia in infants and children.

Campbell, E. H.: Incidence and Significance of Sinusitis in Pneumonia. *Arch. Otolaryng.* 20:696-703 (Nov.) 1934.

A RHINO-ENCEPHALOCELE

Browder and De Veer of the Long Island College School of Medicine report the history and pathological findings of a new-born infant which presented an unusual type of nasofrontal encephalocele which they interpreted as a developmental anomaly of the rhinencephalon. This very curious deformity which protruded from the nose and contained brain tissue of a sclerotic nature from the interior portions of the frontal region of both cerebral hemispheres. The case was further interesting

because the child presented a developmental anomaly in the form of a defective intraventricular septum of the heart.

Browder, J., and De Veer, J. A.: *Rhino-Encephalocele*. *Arch. Path.* 18:646-659 (Nov.) 1934.

ROENTGEN THERAPY IN CHRONIC SINUSITIS

Butler and Woolley of the University of Oregon Medical School have over several years made reports on the roentgen therapy in chronic sinusitis. They publish a further report now of the follow-up to their previous studies, of one hundred cases in which by roentgen therapy thirty-one remained symptom free, fifty were definitely improved and nineteen were unchanged. The original paper had aroused considerable criticism because of possible damage to the skin, blood vessels, nerves and even to the brain; these writers, however, still believe that roentgen therapy has a definite place in the treatment of chronic paranasal sinusitis in properly selected cases, and that there need be no damage whatever to normal structures if properly applied. They further maintain that failure of roentgen therapy in no way interfere with subsequent surgery should the latter become necessary. They do not assume that the procedure is without danger but believe it is safe in experienced hands.

Butler, F. E., and Woolley, I. M.: *Roentgen Therapy in Chronic Sinusitis, A Further Report*. *Radiology* 23:528-535 (Nov.) 1934.

PORTALS OF ENTRY IN SUBACUTE BACTERIAL ENDOCARDITIS

This study from Mount Sinai Hospital in New York is based on the records of 364 patients with subacute bacterial endocarditis, admitted during the last fourteen years, and analyzed with particular attention to the antecedent history and manner of onset. This analysis suggests that the common portal of entry of the streptococcus is from foci of infection in the passages of the upper respiratory tract and mouth. Other portals of entry are the genitourinary tract, otitic infection and wound infection, but there was no evidence of the gastrointestinal tract as a portal of entrance. In ten of these cases there was a history of tonsillectomy or of the extraction of a tooth closely ante-dating the onset of symptoms, suggesting that trauma of an infective focus in this region may produce a transient bacteremia and thus play a part in promoting implantation on the endocardium.

Weis, H.: *Relation of Portals of Entry to Subacute Bacterial Endocarditis*. *Arch. of Internal Medicine* 54: 710-719 (Nov.) 1934.

EFFECTS OF THYMUS EXTRACT

One cc. of thymus extract from the thymus of calves was injected daily in a group of white rats. In some groups this procedure was carried out in a number of generations of the rats. In another group the treatment was interrupted for a generation, and in still another group there was no thymus extract administered (control group). From such a study it was concluded that thymus extract (Hanson) has accelerated the rate of growth and development, has hastened the onset of adolescence in the offspring of treated rats, and has seemed to increase the fertility of the parent rats. The injection of succeeding generations of parent rats has resulted in the amplification of the effects of thymus extract.

Rountree, L. G., Clark, J. H., and Hanson, A. M.: *The Biological Effects of Thymus Extract (Hanson)*. *Jr. Amer. Med. Assn.* 103: 425-430. (November 10) 1934.

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appropriately we can replace the flaps so as to relieve the contracture. This method is especially serviceable in contractures of the fingers, axilla, and the neck.

Where an ugly scar has resulted (without any deformity), the gradual excision method is used. It may take a half dozen operations before a large area scar is transformed into a linear one.

PROGNOSIS: According to Pack and MacLeod, the extent of the burn is more important than its depth. All burns of the first degree are fatal if two-thirds of the body surface is involved; and all burns of the second degree are fatal in adults if one-third of the body surface is involved, and in children if one-seventh is involved. All burns covering one-third of the body surface are extremely serious, if not imminently fatal. All burns involving one-tenth of the body surface should be considered serious.

Berkow estimates surface lesions as follows: the lower extremities, including the buttocks, comprise thirty-eight per cent of the body surface; the trunk, including the neck, thirty-eight per cent; the upper extremities, eighteen per cent; and the head six per cent. The hand is one quarter of an upper extremity and the arm three quarters. Of the lower extremity, the foot is one-sixth, the leg one-third, and the thigh one-half.

NEWS NOTES

STATE MEETING NOTES

Plans are almost complete for the next state meeting to be held in Salina on May 7, 8, 9, and 10. A detailed program will be mailed to every member on approximately April 20, and Saline County Medical Society has forwarded the following information concerning speakers and events. It is believed that this will be one of the best meetings ever held by the Society, and a record attendance is anticipated.

SECTION ON INTERNAL MEDICINE

The section on medicine offers a scientific program of unusual merit. Men who are among the leaders in our profession will appear on the program and will endeavor to impart new ideas, furnish new suggestions and demonstrate new methods which will be of pronounced educational value to every practicing physician in the State. Surely in this era of rapidly changing ideas and progress in medicine, no one can afford to miss this opportunity the state meeting offers to acquire first-hand knowledge of all the latest developments in medicine.

Dr. George W. Crile, director of the Cleveland Clinic Foundation, Cleveland, Ohio, will talk on the following subjects: (1) Normal and pathological physiology of the neuroglandular system. (2) Polyglandular disease.

Dr. James Payton Leake, senior surgeon, United States Health Service, Washington, D. C., will offer papers on the following: (1) Anterior poliomyelitis. (2) Small pox.

Dr. A. Carlton Ernstene, associate physician, cardio-respiratory division, Cleveland Clinic Foundation, Cleveland, Ohio, will present the following: (1) Types of heart disease and their recognition. (2) Heart disease and use of drugs. (3) Lung abscess.

Dr. C. H. Warfield, assistant professor of medicine, Loyola University Medical School, and professor of Roentgenology, Cook County Graduate School of Medicine, Chicago, Illinois, presents: (1) X-ray diagnosis of duodenal ulcer. (2) Differential diagnosis of silicosis.

In addition, the above men will preside at noon luncheons in Internal Medicine. Anyone with questions may present them at these round table discussions.

SECTION ON SURGERY

In preparing the 1935 surgery program the committee has endeavored to outline one that will meet the requirements of every doctor in the state, any part of which no physician can afford to miss.

Seldom, if ever, have we been privileged to meet here and brush elbows with such outstanding men as will appear on the surgical program:

Dr. George Crile, master surgeon, whose cleverness as an operator has spellbound all who have seen him work and nationally and internationally recognized by reason of his contributions to both medicine and surgery. What he has to offer will be unusually instructive and of profound interest.

Dr. Wm. David Haggard of Nashville, Tennessee, also a nationally and internationally known surgeon, author and orator. Whatever he presents, whether it be "Drugs, Devils and Doctors" or something else, will be well worth hearing.

Dr. Oswald Swinney Lowsley, of New York, N. Y., who is director of the Department of Urology of the

James Buchanan Brady Foundation, and consulting urologist for Stuyvesant Square Hospital and other hospitals. He is one of the most prominent in his field, and a distinct contribution to the program.

All of these men are outstanding, and in their own manner will have information worthy of time and attention.

SECTION ON PEDIATRICS

The larger part of the work of the general practitioner in Kansas deals with children. Only infrequently does the doctor have an opportunity to come in contact with the best in the pediatric field.

We are anxious to have every one of you present to hear and meet Dr. Irvine McQuarrie. Dr. McQuarrie is known as one of the best workers in pediatrics, is head of the Department of Pediatrics in Minnesota University and will give us the results of the work they have been doing.

Recently, in speaking to one of best known men in this work, we told him we had secured Dr. McQuarrie for our Kansas program, and asked what other doctor we should have in this field. His answer was, "If you have Irvine McQuarrie I don't see why you need anyone else, he will give us all we can assimilate."

We want all of you with us in Salina. It will be worth more than any effort you will need to make. Dr. McQuarrie is attending a meeting in Atlantic City May 7, and in order to be with us May 9, will take a night plane from Philadelphia.

We can well afford an extra effort to be present when our guest is willing to go to such lengths in order to be with us.

SECTION ON EYE, EAR, NOSE, AND THROAT

In keeping with the rest of the program, this section will provide two of the best known eye, ear, nose, and throat men in the country:

Dr. Sanford R. Gifford of Chicago, Illinois, professor of ophthalmology at Northwestern University Medical School, and attending ophthalmologist at Passavant, Wesley, Evanston, and Cook County Hospitals.

Dr. James B. Costen, of St. Louis, Missouri, instructor in oto-laryngology at Washington University, and consultant and surgeon at Barnes, St. Louis Children's Washington University Dispensary, and St. Luke's hospitals.

Their presentations will be of unusual interest and assistance to every member.

SECTION ON OBSTETRICS AND GYNECOLOGY

The committee was fortunate in securing the services of Dr. M. Edward Davis, of Chicago, Illinois. Dr. Davis is a member of the professorship staff of the University of Chicago Medical School, and attending obstetrician and gynecologist at Chicago Lying-in Hospital, attending gynecologist to the Albert Merritt Billings Hospital, and is prominent in many obstetrical and gynecological organizations.

In addition to several interesting presentations he will discuss a sound movie forwarded by Dr. Jos. DeLee, of Chicago, on "Forceps Operations."

SCIENTIFIC EXHIBITS

Dr. Arthur Hertzler's cancer exhibit and several displays from the American Medical Association will be among the scientific exhibits. In addition the University of Kansas Medical School, the State Board of Health, and several members have cooperated in providing interesting and instructive exhibit contributions.

COMMERCIAL EXHIBITS

Mead Johnson & Company will have on exhibit its complete line of infant diet materials including Dextri-Maltose Nos. 1, 2 and 3, Dextri-Maltose with Vitamin B, Mead's Standardized Cod Liver Oil, Mead's Viosterol in Oil, Mead's Cod Liver Oil with Viosterol, Mead's Viosterol in Halibut Liver Oil (liquid and capsules), Mead's Halibut Liver Oil, Mead's Brewers Yeast (tablets and powder), Pablum, Mead's Cereal, Sobee, Mead's Powdered Protein Milk, Mead's Powdered Lactic Acid Milk Nos. 1 and 2, Mead's Powdered Whole Milk, Alacta, Recolac and Casec. There will also be for the examination of physicians a complete line of Mead's services such as "Diets for Children From Four Months to Four Years," height and weight charts, etc., all of which are free to members of the medical profession in any quantity desired. Representatives will be on hand to meet their friends and to discuss the application of any of the Mead products to infant feeding problems.

H. G. Fischer and Company will display their latest improved electro-therapeutic equipment. Among these will be their short-wave apparatus designed on a new type of construction with special built tubes, a power increase of twenty-five per cent, four patient's outlets to aid tuning, capacity to tune in pad or cuff electrodes and varying body resistances, and with increased tube economy. Also, they will exhibit their shock-proof x-ray apparatus with all diagnostic service heretofore requiring separate pieces of equipment now provided in a single unit, and capable of producing vertical and horizontal radiography and fluoroscopy. Representatives will be present for demonstration.

The American Optical Company will provide an exhibit of interest from the standpoint of optical equipment.

The Medical Protective Company, and its Kansas representative, Mr. A. L. Peterson, will exhibit in pursuance of its policy, "That Professional Liability risk of the doctor cannot be given an underwriting classification with any other type or types of insurable hazards, without disadvantage to the doctor. The circumstances out of which arise the reciprocal rights and duties of a doctor and his patient are peculiar to their relationship; the interest of the doctor in the management and disposal of charges of negligence against him is not to be compared to that of any other class of damage suit defendants. The most exacting requirements of adequate liability protection are those of the Professional Liability field," a field in which that company is exclusively engaged. Samples of its publication "The Doctor and the Law," devoted to the discussion of litigation affecting the practice of medicine, will be distributed, and its representative will be glad to confer on all problems.

Philip Morris and Company, manufacturers of Philip Morris cigarettes, will attend, and will have available results of their research concerning the effect of hygroscopic agents on tobacco and cigarette smoke.

Gerber's new process of shaker cooking of their strained foods will be explained and the foods demonstrated. By this new method the contents of the center of the can reach the temperature necessary for adequate sterilization in from one-fourth to one-third the time necessary by the usual canning procedure. The result is evident in a brighter color and better flavor of the foods, accomplished by avoidance of overcooking. In order to bring the entire contents of a can to 240 degrees F. for adequate sterilization, it has been necessary by canning procedure in general use, to process foods at a higher temperature and for longer time than most desirable from the standpoint of

food color and flavor. The new method of Shaker-cooking does away with this over-cooking and with uneven cooking, by continuous shaking during the cooking. This method accomplishes the same thing as stirring in home cooking, thus distributing the heat uniformly and shortening the cooking time considerably. Charts showing the heat penetration into the can and illustrations of the equipment, with open samples of the food will be on display at the Gerber booth. Booklets and leaflets will be available. Some of these publications are suitable for distribution by physicians while some are for professional use only.

The A. S. Aloe Company will show the new Aloe Radio Short Wave Diatherm and the new style Elliott machine. In addition a complete general line of instruments and equipment will be shown, and Stille-Scanlan rustless steel instruments will be offered at a special discount of 25 per cent. The Aloe Company's Kansas Representative Mr. Max M. Coe will be in attendance to serve in any way possible.

W. A. Rosenthal X-Ray Company will exhibit products of the Westinghouse X-Ray Company and the Burdick Corporation. Mr. John Melaske, Kansas representative, will be in charge to explain and assist.

The General Electric Company will display and demonstrate newest and latest equipment of that company. An invitation is extended to all members to discuss problems or improvement of office facilities with its representatives, Mr. Folk or Mr. Kroyer, who will supervise explanation and demonstration.

The Quinton-Duffens Company will present an optical exhibit which will be directed by their Salina store.

Midwest Surgical Supply Company will be in attendance to demonstrate and exhibit surgical equipment and other instruments and supplies.

The Kelly Koett Company, Goetz-Neimeir Company, Jo-Mar Dairy Company, and H. D. Lee Company are others who are expected to exhibit.

ENTERTAINMENT

Among many interesting entertainment features will be the annual golf tournament, and a new event, the trap tournament. Both of these are to be held on May 7, and considerable prizes have been provided. The trap tournament will consist of blue rock shooting with a qualifying round to divide shooters into different grades of competition. Also the annual banquet will include dancing and a professional floor show. Wives of Saline county members have likewise planned entertainment for visiting wives and daughters.

PUBLIC MEETING

On Friday evening, May 10, a public meeting will be held in the auditorium of the Masonic Temple, and talks will be given by Dr. George Crile and Dr. Wm. Haggard.

ACCOMMODATIONS

Ample accommodations have been provided by a Saline County committee.

DUES

The central office has for the past several weeks been preparing and forwarding 1935 membership cards. So far, several counties have reported one hundred per cent membership, several dormant county societies have reorganized, and dues received are somewhat in excess of the same period last year. All unpaid members are requested to forward remittances to their county secretary as soon as possible to aid the central office in compiling county society membership for the year, and to qualify attendance at the state meeting.

BASIC SCIENCE PROPOSAL

Senate Bill No. 31 introduced by Senator Henry Diefendorf, Riley, and providing for healing applicants to pass a basic science examination from an impartial board was killed on the Senate calendar in the closing moments of the session.

Previously, it had been approved for passage by the Senate Committee on Temperance and Public Health after a hearing at which Bishop James Wise of the Episcopal Church, Father Wm. Schaeffers of the Catholic Church, Rev. J. E. Lander of the Kansas Hospital Association, Mr. James Malone, representing the Catholic hospitals, Mr. William Drennan, representing the Kansas City Chamber of Commerce, Mr. W. M. Newmark of the Kansas Pharmaceutical Association, representatives of the Kansas Board of Health, Dr. C. C. Nesselrode, and Dr. E. C. Duncan spoke in favor of the bill, and at which only three chiropractors spoke in opposition.

After and during approval by this committee the bill developed into one of the foremost issues of the session. It was hard fought by opponents, and many petitions, letters, telegrams, and personal contacts were utilized in opposition. An equal or greater amount of representative citizens and groups evidenced support. The result was a situation in which the Senate for political expediency chose not to vote on the merits of the proposal. This was accomplished by refusal of the calendar committee to bring the measure to debate, and it thus died on the calendar shortly before adjournment.

GOLF VS. TRAPS

The following official "call to arms" has been issued by the Kansas Medical Golfing Association:

"For several years the Kansas Medical Golfing Association has trudged and cussed its way around the annual tournament golf course. For years its ranks were torn by internal strife on that one day a year when its members swung clubs viciously, sliced deeply and desperately, hooked with ferocity and banged out booming and puny drives in their war on par and Dr. Zilch of Podunk. (That guy has always overrated himself as a golfer.) Then at the close of the day's campaign the warriors sat down to a banquet on the eve of the Kansas Medical Society's state convention and pledged a year's armistice. Some ate crow, some ate the dove of peace, some paid attention to their food, and a general good time was had by all.

This year at Salina, however, it's going to be different. A group of imposters who call themselves sportsmen has horned in on the festivities. As they watched the growing success of the golfing association the green eyed monster of jealousy began sapping the sporting blood of the group's members, until this year they brought pressure to bear and arranged a dual tourney with the golfers. They're trapshooters! Hoot mon, 'tis an insult to the ancient and royal game of golf. Everybody knows we've got too many traps on our golf courses as it is, and everybody knows what difficulty we have keeping our traps shut in the bunkers.

These trapshooters are going to spend the entire day merely shooting at little pieces of clay, small, defenseless round disks, and then sit in at the banquet and boast about their scores. Scores—we of the golfing association can show 'em some scores. Why we've got members who can go up to the 130s under pressure.

Trapshooters, bah—why they only shoot birdies, clay ones at that, while we golfers shoot birdies, buzzards, eagles and twelves.

We're going to shoot the works, though, at Salina, May 7, and give these poor misguided trapshooters a royal welcome.

And that's the purpose of this notice. We'll need all hands to hold our own with this armed band of clay pigeon despoilers, so all you golfers be on hand early with your war clubs and plenty of ammunition. At the tournament proper we may be at a slight disadvantage, insofar as they'll be armed with guns, but at the banquet table we're a ten to one shot. We've been practicing for years."

MEMBERS

Dr. Athol Cochran, Pratt, has been selected as Pratt county health officer to serve for the ensuing year.

Mac Cahal, executive secretary of the Sedgwick County Medical Society, who was injured in a motor car accident near Topeka on February 26, recently was able to return home, and is recovering satisfactorily.

Dr. Ralph R. Melton, Halstead, is making preparations to open an office in Marion. He will take a room in the Wheeler Building and expects to be ready for practice the first of July.

Dr. David F. Parker, Tonganoxie, has been appointed prison physician at the Kansas penitentiary at Lansing, and will also serve as physician for the Industrial Farm for Women. Dr. Parker will also have an office in Lansing.

Drs. W. A. Smiley, W. A. Carr and Robert Carr will occupy the new offices in the Home State Bank Building, Junction City, as soon as the remodeling work has been completed.

Dr. and Mrs. Maurice Snyder, Salina, were seriously injured in an automobile accident near Manhattan, Saturday evening, March 30. Dr. Snyder suffered a fractured thigh, and Mrs. Snyder was badly cut and bruised.

A request has been recently received from Copenhagen, Denmark, for a copy of Dr. Thomas G. Orr's article on "Gas Bacillus Infection Following Subcutaneous Injection of Salt Solution" which appeared in the June, 1934, issue of the Journal.

DEATH NOTICES

Dr. C. F. Bucklin, 67 years of age, died in Sawyer the morning of March 16. He was born in Sudbury, Vt., in 1868, graduated from the College of Physicians and Surgeons at Keokuk, Iowa, in 1896, settled in Sawyer in 1897 and started his practice which he continued actively until around the first of March. He was a member of the Pratt County Medical Society.

Dr. D. E. Clopper, 62 years of age, died at Providence Hospital, Kansas City, on March 15. He was graduated from the University Medical College of Kansas City in 1896 and started his practice in 1901. He was a well-known physician in the Argentine district for more than thirty-five years and a member of the Wyandotte County Medical Society.

Dr. C. A. Milton, 82 years of age, died at his home in Dodge City, March 2. He went to Dodge City a year after graduating from the Rush Medical School in 1882 and entered into partnership with Dr. T. L. McCarty, the first man of the medical profession to practice in Dodge City. He was very active in civic work and was responsible in a large way in obtaining the Dodge City Carnegie library. He later formed a partnership with Dr. W. O. Thompson. He retired from active practice in 1907.

Dr. Harrison H. Norris, 73 years of age, died in Whitewater on March 17 after serving as physician in

that community for the past fifty years. He was born in Morehead, Ky., and moved to Peabody with his parents at the age of nine years. He studied medicine at Eclectic Medical College, at Cincinnati, Ohio, and was graduated in 1885. After graduation he located in Annelly, and later moved to Whitewater where he continued his practice until his death. He was a member of the Harvey County Medical Society and had served as president of the organization.

Dr. Benjamin F. Roe, 63 years of age, died in Chetopa on February 17 of coronary thrombosis. He was a graduate of the University Medical College of Kansas City in 1908. He was a member of the Labette County Medical Society.

DEATH OF DR. FRANKLIN H. MARTIN

Dr. Franklin H. Martin, 77 years of age, died in Phoenix, Arizona, on March 7. He was born at Ixonia, Wisconsin, and was graduated in medicine from Northwestern University, in 1880. In 1888 he was one of the founders of the Post-Graduate Medical School, the first in Chicago, and in 1905 founded "Surgery, Gynecology and Obstetrics," one of the greatest journals of its kind in the world, and of which he has been the one and only editor. He was the active directing head of the American College of Surgeons, and served in the capacity of president in 1928-29. His professional interests centred in gynecology, in which he did a great deal of research, and especially in ovarian transplantation. He was one of the notable figures of American medicine.

BOOK REVIEWS

BODY MECHANICS. Joel E. Goldthwait, M.D., Lloyd T. Brown, M.D., Loring T. Swaim, M.D., and John G. Kuhns, M.D., Boston, 1934. Published by J. B. Lippincott Company, Philadelphia. 281 pp.

The manuscript represents over thirty years of continuous thought by one of the outstanding authorities on this particular subject. The book was really expected long before this, and will certainly fill an important place in modern medical thought.

The authors point out certain general characteristics of the human body, and the influence these may have on the body as a whole. They then go on to show how poor Body Mechanics may affect almost every organ in the body—and the part this may play in the actual production of disease. It seems incredible that poor Body Mechanics should affect arthritics; still more incredible that it should have any bearing at all in diabetes. Yet after one follows the line of thought presented in the book, one realizes that this is not only a possibility but a probability.

Each group of diseases is discussed, and the effect of poor Body Mechanics noted. Anatomical and physiological features are briefly mentioned in a general way.

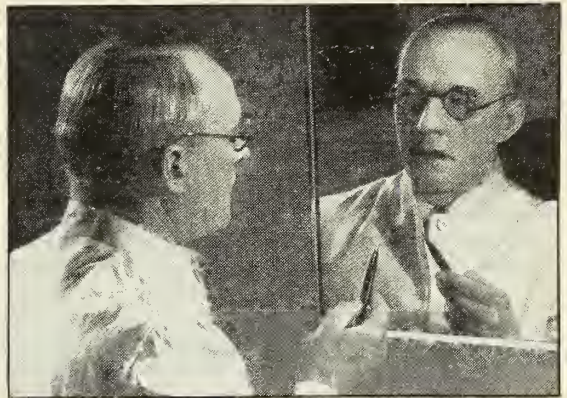
The treatment advocated is the usual type followed in orthopedic surgery, consisting in the main of proper support and muscle re-education. A series of case reports illustrate the fundamental principles outlined, and a rather complete bibliography completes the monograph.

It is well written, and the contents will startle the uninitiated in the problems presented.—M.E.P.

THE CRIPPLED AND THE DISABLED. Henry H. Kessler, M.D. 1935. Published by Columbia University Press, New York City. Price \$4.00. 337 pp.

This book represents a remarkable survey of the whole field of rehabilitation, and includes almost every physical

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phase of the subject. The child cripple, the military, industrial and chronically diseased cripple, as well as the blind, the deaf and the dumb, all are given separate chapters.

A concise but excellent history is given, and the modern approach to the subject clearly outlined. Legislation affecting the disabled is considered not only in this country but also in foreign countries. The progress which has been made to date, and the limitations still to be overcome are presented.

The key-note stressed is the ability to enable the physically handicapped to not only cease being dependents but to actually become wage earners. The book is well written, and by one of the outstanding authorities on this subject in this country. All in all it is an excellent contribution from a sociological as well as a humanitarian standpoint.—M.E.P.

NEW BOOKS RECEIVED

BODY MECHANICS by Dr. Joel E. Goldthwait, member of board of consultants at the Massachusetts General Hospital; Dr. Lloyd T. Brown, Dr. Loring T. Swaim, and Dr. John G. Kuhns, all of the Harvard Medical School. Published by the J. B. Lippincott Company, Philadelphia, at \$4.00 per copy.

THE NERVOUS PATIENT by Dr. Charles Phillips Emerson, research professor of medicine, Indiana University, Indianapolis. Published by the J. B. Lippincott Company, Philadelphia, at \$4.00 per copy.

PRINCIPLES AND PRACTICE OF PHYSICAL DIAGNOSIS by Dr. Robert F. Loeb, associate professor of medicine, College of Physicians and Surgeons, Columbia University, New York, and Dr. George J. Farber. Published by the J. B. Lippincott Company, Philadelphia, at \$2.00 per copy.

WHAT YOU SHOULD KNOW ABOUT HEART DISEASE by Harold E. B. Pardee, associate professor of clinical medicine, Cornell University Medical School. Published by Lea and Febiger at \$1.50 per copy.

USEFUL DRUGS, Ninth Edition. Edited by Dr. Robert A. Hatcher and Dr. Cary Eggleston. Published by American Medical Association at sixty cents per copy.

THE ROMANCE OF EXPLORATION AND EMERGENCY FIRST-AID FROM STANLEY TO BIRD. Published by Burroughs Wellcome and Company.

FEMALE SEX PERVERSION by Maurice Chideckel, Baltimore, Md. Published by the Eugenic Publishing Company, New York, at \$6.00 per copy.

PHYSICAL DIAGNOSIS, Seventh Edition, by Dr. Warren P. Elmer, associate professor of clinical medicine, Washington University School of Medicine and Dr. W. D. Rose, late associate professor of medicine in the University of Arkansas, Little Rock, Arkansas. Published by the C. V. Mosby Company at \$8.00 per copy.

METHODS OF TREATMENT, Fifth Edition, by Dr. Logan Clendening, clinical professor medicine, medical department of University of Kansas. Published by C. V. Mosby Company, St. Louis, at \$10.00 per copy.

DISEASES OF THE SKIN, Ninth Edition, by Dr. Richard L. Sutton, professor of dermatology, University of Kansas school of medicine and Dr. Richard L. Sutton, Jr., assistant in dermatology, University of Kansas school of medicine. Published by the C. V. Mosby Company, St. Louis, at \$12.50 per copy.

PHYSIOLOGY IN MODERN MEDICINE, Seventh Edition, by Dr. J. J. R. Macleod, regius professor of physiology in the University of Aberdeen, Scotland. Published by the C. V. Mosby Company, St. Louis, at \$8.50 per copy.

THE AUTONOMIC DISEASES OR THE RHEUMATIC SYNDROME by Dr. T. M. Rivers. Published by Dorrance & Company, Inc., Philadelphia, at \$3.00 per copy.

THE 1934 YEARBOOK OF GENERAL THERAPEUTICS by Dr. Bernard Fantus, professor of Materia Medica, pharmacology and therapeutics, University of Illinois, College of Medicine. Published by the Year Book Publishers, Chicago, at \$2.25 per copy.

MORBIDITY REPORT

New communicable disease cases in the state as compared with last month are reported by the Kansas State Board of Health as follows:

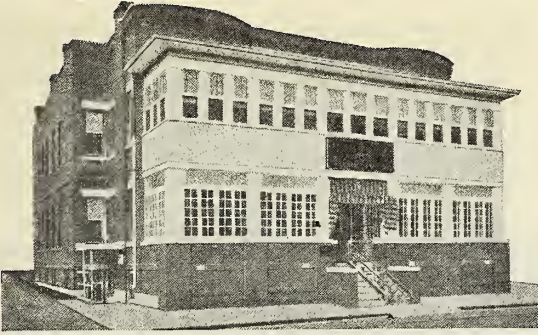
Disease	Month ending March 16	Month ending February 16
Measles	5684	4151
German Measles	3808	1553
Mumps	648	492
Chickenpox	465	538
Pneumonia	442	387
Scarlet fever	381	427
Whooping cough	298	225
Syphilis	107	131
Influenza	91	200
Tuberculosis	66	57
Gonorrhea	64	74
Smallpox	52	28
Diphtheria	42	40
Pink-eye	19	1
Meningitis	11	12
Cancer	8	4
Typhoid fever	4	5
Scabies	2	0
Vincent's angina	1	3
Undulant fever	1	2
Poliomyelitis	1	1
Tetanus	1	0
Tularemia	0	3
Encephalitis	0	2

COUNTY SOCIETIES

The Cowley County Medical Society held a meeting March 7, in Arkansas City and the main address was given by Dr. H. A. Mercer, Arkansas City, with discussion by Dr. R. W. James, Dr. H. H. Jones, and Dr. Bessie Rehwinkel, all of Winfield.

Approximately sixty doctors and their friends attended the dinner meeting of the Central Kansas Medical Society on March 19 in Hays. Dr. F. L. Loveland, Topeka, and Dr. L. V. Dawson, Ottawa, were the principal speakers, their subjects being respectively "Health Insurance," and "Medical Care of Indigents." A decision was made that the society would follow the procedure adopted by the Franklin County Medical Society on indigent care and a Medical Economics Committee was appointed. Dr. O. A. L. Hennerich, Hays, Dr. W. F. Deal, Oakley, and Dr. L. V. Turgeon, Wilson, are members of this committee and sub-committees are to be appointed for each individual county, comprising the Central Kansas Medical Society.

(Continued on Page 172)



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Special Facilities:

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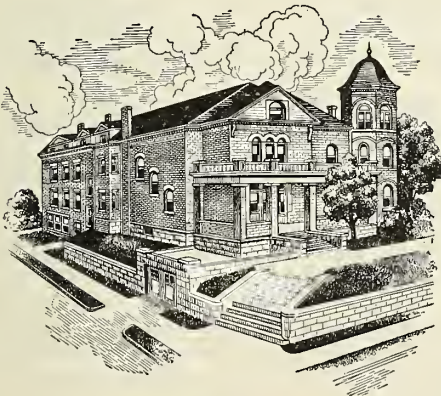
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A dinner meeting of the Crawford County Medical Society was held in Pittsburg on February 28. Dr. H. E. Morgan, Fredonia, spoke on "The Use of the Special Senses in Clinical Diagnosis;" Dr. L. W. Baxter, Joplin, Missouri, on "X-Ray in Diagnosis of Urological Conditions;" Dr. M. Jones, Joplin, "Clinical Pathological Diagnosis of Diseases of the Kidneys."

Dr. H. L. Chambers, Lawrence, gave a paper on "Socialization of Medicine" at a meeting of the Douglas County Medical Society in Lawrence on March 7.

At a dinner meeting of the Ford County Medical Society on March 8 at Dodge City, Dr. Ralph Fellows, Topeka, was the guest speaker, his subject being, "Modern Concepts of Dementia Precox." The paper was discussed by Dr. J. A. Dillon, Larned.

Officers elected to serve for 1935 in the Franklin County Medical Society are as follows: Dr. H. J. Terrill, Ottawa, president; Dr. W. L. Jacobus, Ottawa, vice president; and Dr. L. V. Dawson, Ottawa, secretary. At a dinner meeting in Ottawa on March 27, Dr. E. R. Deweese, Kansas City, Mo., and Dr. Arthur Hertzler, Halstead, were the main speakers. Approximately one hundred people attended from Franklin and the surrounding counties. Dr. J. F. Hassig, Kansas City; Dr. H. L. Chambers, Lawrence, and Dr. L. F. Barney, Kansas City were state society officials present at the meeting.

A meeting of the Tri-County Medical Society was held in Newton March 4 with members of the Marion, McPherson, and Harvey County Medical Societies present for the dinner and the business meeting following. Dr. E. C. Padgett, Kansas City, Mo., read a paper on "Carcinoma of the Face, Mouth and Jaws," and Dr. F. Helwig, Kansas City, Mo., presented a paper on "Water Balance" illustrating his talk with slides.

Members of the Mitchell County Medical Society elected the following officers for 1935: Dr. H. B. Vallette, Beloit, president; Dr. H. L. Collins, Beloit, vice president; Dr. Ward Weltmer, Beloit, secretary-treasurer; and Dr. Hugh A. Hope, Hunter, delegate to the state meeting.

Dr. E. C. Duncan, Fredonia, spoke on "Public Welfare" at a meeting of the Montgomery County Medical Society on March 15 at Independence. A motion picture showing the technique of the manufacture of insulin was an added feature on the program.

The Neosho County Medical Society met at the home of Dr. L. D. Johnson, in Chanute on March 6, and Dr. E. C. Duncan, Fredonia, was the guest speaker.

At a meeting of the Reno County Medical Society on March 1 in Hutchinson, physicians from Harvey, McPherson, Rice, Barton, Pratt, Kingman, Pawnee, Edwards, Stafford and Ford counties were guests of the society. The principal speakers on the program were Dr. Ralph Major, Kansas City, who spoke on "Hippocrates and the Isle of Cos" and Dr. D. G. Leitch, Kansas City, who spoke on "Pathology of Sudden Death from Heart Disease."

Dr. C. C. Nesselrode, Kansas City, and Dr. Fred W. Angle, Kansas City, Mo., presented a scientific program for members of the Saline County Medical Society in Salina on March 14 at a dinner meeting.

The Sedgwick County Medical Society held a dinner meeting on March 5 in Wichita with Dr. Thomas G. Orr, Kansas City, as the principal speaker.

Members of the Shawnee County Medical Society met April 1, in Topeka with Dr. L. S. Nelson, Salina, as the guest speaker. His subject was "Skull Fractures."

The quarterly meeting of the Southeast Kansas Medi-

cal Society was attended by more than forty physicians from over a wide territory on March 14 in Coffeyville. Following a dinner the program was given as follows: Principal speakers were Dr. O. R. Withers, Kansas City, Mo., who talked on "Nasal Allergy;" Dr. Roy Balyeat, Oklahoma City, spoke on "Therapeutic Value of Iodized Oil, Used in Conjunction with Specific Desensitization in Case of Intractable Asthma;" Mr. Knox P. Lancaster, Kansas City, Mo., on "The Far-Sighted Doctor;" Dr. Sam Roberts, Kansas City, on "Non-Surgical Treatment of Sinus Diseases."

The regular meeting of the Washington County Medical Society was held in Washington, on March 12. Following the dinner Dr. Henry D. Smith, Washington, presented a paper on "Cardiac Arrhythmias in Childhood."

Dr. P. M. Krall and Dr. F. E. Angle, both of Kansas City, were the principal speakers on the program of the meeting on March 6 of the Wyandotte County Medical Society. Their subjects were respectively "Electrocardiography in Myocarditis" and "Electrocardiography in Arrhythmias." At the meeting on March 20 Dr. W. J. Feehan, Kansas City, spoke on "Emergency Treatment of Simple and Compound Fractures." Dr. M. A. Walker and Dr. W. H. McKeen, both of Kansas City, opened the discussion.

At a meeting held in Hiawatha on March 14 representatives from Brown and Doniphan in Kansas and Richardson in Nebraska organized a District Society whose object is to hold quarterly meetings at which the speakers who have been appearing before each small group may be enjoyed by larger numbers. Dr. W. G. Emery, Hiawatha, was elected chairman and Dr. Edw. K. Lawrence, Hiawatha, secretary-treasurer. The first meeting was held the evening of April 11. Dr. O. W. Davidson, Kansas City, discussed the plans of the state Medical Economics Committee in regard to insurance or state medicine.

KANSAS MEDICAL AUXILIARY

The Central Kansas Medical Auxiliary held a district meeting in Hays the afternoon of March 19, 1935, at the home of Mrs. C. D. Blake. Several of the state officers were present and a dinner followed the business meeting.

The Neosho County Medical Auxiliary met at the home of Mrs. James A. Butin in Chanute on March 6 with Mrs. E. C. Duncan of the Wilson Medical Auxiliary as a guest.

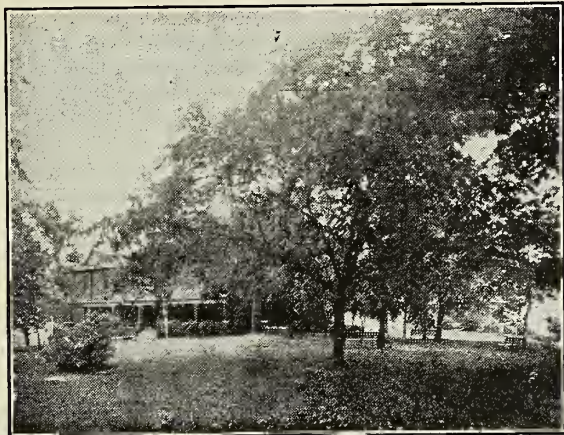
At a meeting of the Wilson County Medical Auxiliary on February 11 at the home of Mrs. W. H. Young, Mrs. E. C. Duncan gave a report of the State Board meeting held recently, and a paper on "The First Twelve Years of the Medical Auxiliary." Members present at the meeting were Mrs. B. P. Smith, Neodesha; Mesdames A. C. Flack, E. C. Duncan, H. E. Morgan, W. H. Young, Fredonia, and Mrs. Flossie Smith was an additional guest.

The Wyandotte County Medical Auxiliary held a meeting on February 21 at the home of Mrs. H. L. Regier, Kansas City, for the purpose of electing officers to serve during 1935. The following officers were elected: Mrs. L. B. Spake, president; Mrs. Donald Medearis, vice president; Mrs. Lewis Angle, secretary, and Mrs. O. W. Davidson, treasurer, all of Kansas City. Chairmen for the standing committees were announced by Mrs. Spake as follows: Mrs. C. E. Coburn, Courtesy; Mrs. H. L. Regier, Hospitality; Mrs. T. G. Dillon,

(Continued on Page 174)

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The Auxiliary luncheon at the Salina meeting will be held at the Marymont College. The meetings of the Board and Council will be held in the Masonic Temple. This marks the tenth anniversary of the Auxiliary and the luncheon is open to all members and their friends.

EXCHANGES

The public is aware of and certainly interested in the lack of agreement between the medical profession and the press upon the subjects of news and advertising. From time to time developments arouse hope among newspapermen that some way of improving existing conditions eventually may be found.

The press is happy to note this recognition of the value of advertising printed in the Journal of the Kansas Medical Society for February:

We are glad to hear thru different sources that the members of The Kansas Medical Society are favoring products advertised in the Journal. Our paper is supported by the advertisers and their support by the readers will induce them to renew their contracts. This also will be good argument for our business manager to use in inducing other reputable firms to secure space. Increased income will permit the Journal to increase its size and to furnish cuts for illustration without charge to our contributors.

Newspaper men and others who are informed about advertising have no doubt the use of the advertising columns of the society's Journal is profitable for both the advertisers and the members of the profession. The newspaper men also believe that those who practice medicine and those who need professional services would benefit thru the use of advertising columns of the press by doctors.

Perhaps the full use of the newspapers, for the benefit of both physician and patient, when it does come, will be by way of the news columns. Doctors use the same code of ethics to deny newsmen information of great or small importance, but having a public value, that they use in refusing to advertise.

In the column next to the article in which the value of advertising is acknowledged, the February Journal also carries an article from the New England Journal of Medicine, discussing methods by which publicity might be obtained for medical affairs. The need for such publicity is recognized, the desire of the newspapers for accurate, reliable information is cited. A committee to consider and supply accurate information for the press is suggested.

In conclusion the article says:

Certainly we could be no worse off than we are at the present time. In an endeavor to interpret scientific news the average reporter or editor is as much in need of help as is the average doctor when it comes to understanding matters of publicity and newspaper practice. In an experience of some years with Boston papers the writer has had uniformly courteous consideration and real effort has been made by the press to meet the demands of accurate and ethical medical publicity. We must co-operate with the press or have only ourselves to blame for the raising of false hopes in thousands of sufferers and ultimately, thru too many false heraldings of the dawn, to

see all medical discoveries viewed with skepticism.—February 28, 1935, Topeka State Journal.

A speaker, Dr. T. B. Rice, bacteriologist who addressed a meeting of the Women's Auxiliary of the Wayne County Medical Society in January, caused some commotion (not among his immediate audience) for some alleged heterodox pronouncements on the subject of diet. He said a great deal that runs counter to advertising propaganda with which the laity are fed up by radio and by the various journals on housekeeping that go into the homes. The speaker received more than usual attention from the newspapers. In other words, his address was news. It was news that spinach was not the important article of diet that it is commonly held to be by the layman and particularly the laywoman. It was news that vitamins, while important, are overstressed and exploited by those with something to sell.

It is high time the food faddist receive a jolt. Professor Martin B. Rehffuss of Jefferson Medical College, in a recent address before the American Dietetic Association, is reported as saying, "Diet faddists have reached a point where they are a positive menace to the health of the community and an insult to the reasoning of intelligent men and women," and Professor Murphy of Harvard (Nobel prize in medicine) declared, "Undoubtedly they (the new diet fads) form one of the most pernicious publicity schemes available because they are publicity schemes for someone or something."

Vitamins are necessary for health. It would be difficult, however, in a normal regimen such as that on which our ancestry subsisted since the beginning of life upon the planet to avoid them, since they are present in the most common articles of food. Sir Walter Fletcher, an English nutritional chemist, speaking of Vitamin D, known as calciferol, the only vitamin it has been possible to isolate in pure crystalline form, says "a single ounce of it would suffice to give a full daily ration for a million growing children."

DEATH RATE FOR TUBERCULOSIS LOWER FOR 1934

According to statisticians of the Metropolitan Life Insurance Company who have been studying the mortality figures for the first quarter of the year, a large reduction in the tuberculosis death rate during 1934 is foreseen. Among the industrial population, it is expected that the death rate from tuberculosis will run about 60 per 100,000 for this year. During the first quarter of 1934, the rate among insured white persons was 51.2 per 100,000, which they claim is a "remarkable low figure." (Pennsylvania Medical Journal.)

ANNOUNCEMENTS

The American Medical Golfing Association will hold its twenty-first annual tournament at the Northfield Country Club in Atlantic City on Monday, June 10, 1935. Seventy trophies and prizes will be awarded in the nine events. All male Fellows of the American Medical Association are eligible and cordially invited to become members of the A.M.G.A., and may write the Executive Secretary, Bill Burns, 4421 Woodward Avenue, Detroit, for an application blank. For further information write the American Medical Golfing Association, 4421 Woodward Avenue, Detroit, Michigan.

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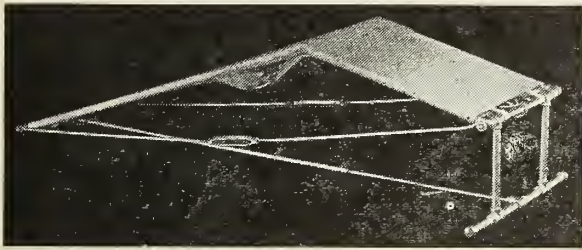
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Proc. Soc. Exp. Biol. and Med., 1934, 32, 241-245*



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A WORTHY CAUSE

"The Annals of Medical History" carrying no advertising and devoted entirely to the historical and literary aspects of medicine is confronted with financial difficulties. Its editor, Dr. Wyndham B. Blanton, of Richmond, Virginia, in a recent bulletin calls attention to the fact that the magazine is financed entirely by subscriptions, and appeals to the profession for assistance in avoiding cessation of publication.

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FOR SALE: A Victor x-ray, ten-inch capacity, fluoroscopic table, vertical fluoroscope, stereoscope, tubes and other equipment. Address Dr. C. W. Lawrence, Emporia, Kansas.

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SURGERY IN DIABETES*

GEZA DE TAKATS, M.D.

Chicago, Illinois

An interesting development is taking place in surgery. The surgeon of today, armed with anatomy, pathology and physiology, does more than repair anomalies, treat injuries, combat infections and eradicate tumors. He may modify regulatory mechanisms and re-establish a disturbed equilibrium. He tinkers with perverted functions and utilizes all the recent developments that modern medicine may offer. The modern surgeon is more and more confronted with medical problems and the progressive internist is becoming familiar with the results of surgery in his field of interest. The much abused slogan of a cooperation between surgeon and internist should mean more than a formal consultation at the bedside. They must be familiar with each other's problems. The surgeon interested in peripheral vascular disease must be aware of the possibilities of general cardiovascular damage; if he treats a surgical complication of diabetes, he should have a clear idea of the patient's diabetic status. Should he be asked to treat a hemorrhagic purpura by splenectomy, he should take an active interest in ruling out such purpuras which are not suitable for operation.

This border-line type of surgery is well exemplified by the surgery of diabetics. The surgical diabetic of the past was an emaciated, mentally and morally exhausted individual to whom surgery was either denied or on whom it was performed as an emergency with small hope of recovery. The character of operations permissible in diabetics has changed. At the same time diabetic coma, which used to be the largest factor in the mortality of diabetics, has now been superseded by the deaths due to car-

diovascular damage and surgical complications. This places a great and new responsibility on the surgeon. He must familiarize himself with the principles of dietetic and insulin management and realize what his medical colleague can do for him. The internist, on the other hand, had to gain insight into the remarkable effects of surgical management in a diabetic whom he was unable to control medically.

It would be most tempting to concentrate on the many problems encountered in diabetic surgery. Instead, I propose to emphasize only governing principles, which have proved to be important in the surgical complications of diabetes and will use as illustrations the management of diabetic gangrene, the diabetic carbuncle and the surgical abdomen as differentiated from diabetic coma. In the second part of my discussion I will summarize my efforts in operating on diabetics to increase their diminished sugar tolerance; in other words, to attack not a surgical complication, but the uncomplicated diabetes. I might say, that years of cooperation with internists of the type of Russell M. Wilder, Charles A. Elliott and George K. Fenn have been of incalculable benefit in developing a teamwork so necessary in the management of the surgical diabetic.

Broadly speaking, three groups of diabetic patients require surgical interference. First, operation is imperative in ruptured or rupturing abdominal viscus or in injuries requiring immediate repair. There is naturally no time for extensive medical management. In most hospitals even a rapid determination of the blood sugar, of CO₂ combining power is impracticable. From the massive amount of sugar and the presence of acetone-bodies in the urine, the surgeon can reasonably conclude that in the uncontrolled diabetic requiring imperative surgery he must prevent diabetic coma. These measures consist of adequate supply of fluids, glucose, insulin and heart stimulants. 500 cc.

*Presented at the Kansas City Academy of Medicine, December 21, 1934.

of ten per cent glucose can be given intravenously in one hour. Twenty units of insulin are given at the same time, five gr. of caffeine every hour for four doses, and one-sixth gr. of ephedrine subcutaneously if the blood pressure is falling. With such management, the diabetic is ready for operation within an hour. During the operation, five per cent dextrose is given subcutaneously and insulin is administered after the operation according to the urinary findings. A self retaining catheter is left in the bladder and a specimen is tested by the nurse every four hours for sugar and diacetic acid. After the operation, the diabetic is naturally under the joint care of the internist and the surgeon. As a general principle, one hundred grams of carbohydrate should be supplied daily by the subcutaneous or oral route. No sugar is given by rectum. The post-operative diabetic, especially in the presence of infections, has practically no tolerance and is markedly resistant to insulin. Therefore, he requires at least forty-five units of insulin to cover the one hundred grams of dextrose, often more. When oral feedings are begun, it has been my experience that early attempts of high caloric diets may easily produce a set-back. Twenty-five calories per kilogram body weight, containing one gram of protein per kilo, are more than enough. Fat-poor diets are more easily consumed at this stage.

In the second group of diabetics, surgery is urgent but not imperative. A day or two may be spent in trying to free the urine from acetone-bodies or raise the CO_2 combining power of the blood. These are patients with carbuncles, infections of the hand, cellulitis, pleural empyema, in other words, pyogenic infections. When acidosis is relieved or improved by fluids, glucose and insulin, the surgical risk has been greatly diminished. A blood culture in diabetics with pyogenic infections is our routine procedure. A great mistake is to wait for complete diabetic control. This is mostly impossible during the presence of an acute infection. In waiting for the disappearance of glycosuria the patient may succumb to a streptococcus septicemia. The disappearance of acetone-bodies, however, may be rapidly accomplished and is highly desirable in this group.

We finally come to the last group of patients, in whom elective surgery can be performed under complete diabetic control. It is in this group that the most gratifying results have been obtained since the advent of insulin. In the pre-

operative medical management, the diet builds up a satisfactory hepatic reserve of glycogen and consists usually from 120 to 150 grams of available glucose. The urine should be free or practically free of sugar, absolutely free of acetone. The fasting blood sugar should preferably be below 200 milligrams per 100 cc., and the alkaline reserve well above fifty per cent.

The diabetic who is under such rigid pre-operative control for ten days to two weeks before an operation, and whose postoperative medical care is just as rigid and meticulous is no greater surgical risk than the non-diabetic of the same age and cardiovascular status. Thyroidectomy, cholecystectomy, removal of a carcinoma should be urged on the same indications as if the patient were nondiabetic. The healing of wounds in controlled diabetics is not delayed. Through the removal of some of these wasting and debilitating lesions often an improvement of the diabetic status may be accomplished.

The anesthetic for operations on diabetics must be carefully selected. Whenever possible, local anesthesia is much to be preferred. The idea that the tissues of the diabetic are prone to slough after infiltration with novocaine can certainly not be supported by our experience with local anesthesia. Amputations on diabetics are performed without shock under a low spinal anesthesia, which need not and should not extend above the groin. Abdominal operations are conveniently done under ethylene combined with local infiltration. For the incision of infected wounds, carbuncles, which require short anesthesia and the use of the cautery, the intravenous injection of evipal is admirably suitable.

The healing of wounds is delayed when diabetes is uncontrolled but not otherwise. In experimental wounds, the uncontrolled pancreatectomized animal shows an absence of fibroblasts and a massive cellular exudate, predominantly leukocytes.

A few types of cases might be briefly discussed for illustration.

DIABETIC GANGRENE: About twenty-five per cent of all diabetic deaths are due to diabetic gangrene. The problems encountered by the physician in a case of diabetic gangrene are, first of all, the determination of the peripheral vascular status; second, the differentiation between a primarily circulatory or primarily infectious gangrene; and third, the decision as to operative

or non-operative treatment and, if amputation is necessary, the determination of the proper level of amputation.

First, peripheral vascular status is systematically investigated by the palpation of pulses, the estimation of the surface temperature, the cutaneous histamine reaction and the oscillographic curves. In my clinic a circulatory record is kept on a mimeographed sheet for all patients.

For practical purposes, the palpation of pulses, the skin temperature as estimated by the hand, and the histamine reaction can be determined for the study of collateral circulation. The investigation of the patient's circulatory efficiency will also help to answer the second question; namely, whether a primarily circulatory or an infectious process is present. If peripheral pulses are present, or if in their absence the foot is warm and of good color, and if there is a definite localized infection such as an infected callus or an osteomyelitis of the toe, the diagnosis of an infectious gangrene is made and only drainage or minor amputation is necessary. Superficial ulcerations may not only heal, but large defects can be covered by skin graft.

The third question, whether in a given case of gangrene operative or conservative treatment is indicated is difficult to answer summarily, as so many factors come into play. A conservative treatment is adopted in a case of toe gangrene, whether demarcated or demarcating, if there is no spreading infection and no evidence of septicemia. Dakin's solution is used with careful protection of the skin, active vascular exercises of Buerger are prescribed, and the passive vascular exercises are administered with the Reid-Hermann apparatus, which stimulates collateral circulation. Continuous moderate heat is supplied by an electric baker, and naturally, a complete diabetic control is attempted. A slow healing may take place with loss of one or two phalanges. A hasty amputation at this stage may precipitate a rapidly spreading gangrene.

Should there be, however, a slow but definite spread of the gangrene, uncontrollable pain or what is most alarming, an evidence of spreading infection or even bacteremia, amputation should be carried out without further delay. The insidious septicemia does not have to manifest itself in high or remitting temperatures. A loss of appetite, weight, a dry tongue, an increased insulin requirement are more sensitive indicators. A blood culture should be taken

in every case of diabetic gangrene when spreading infection is suspected.

The third problem, the determination of the proper level of the amputation, can hardly be dealt with adequately in so short a time. There are important mechanical considerations, but the decisive factor is the level of circulatory efficiency, which is best determined by the surface temperatures and the histamine flares. General rules about amputating below or above the knee according to the presence or absence of the popliteal pulse are not satisfactory.

Unfortunately, a great many patients arrive with a spreading infection, and not only the circulatory disturbance but the infection demands an amputation. No time should be lost here in amputating above the knee. The tourniquet is placed not above but below the circular incision to prevent infection of the stump. If the patient is septic, the wound should be left entirely open, loosely packed with gauze saturated in Dakin's solution and a secondary suture or secondary amputation is performed later, should the patient survive. An entirely lethargic attitude about these septic diabetics is not warranted. The blood stream infection should be vigorously attacked with transfusions and with massive doses of polyvalent antistreptococcus or gas gangrene serum. The intravenous use of urotropine is worthy of trial. The prognosis, while bad, is not hopeless. A staphylococcus septicemia, however, has always proved fatal in my experience.

The immediate mortality of patients amputated for diabetic gangrene is due almost always to septicemia, seldom to a vascular accident. Most patients die later of cardiovascular disease. For the prevention of bed sores on the other leg, active and passive vascular exercise may help to avoid bilateral gangrene.

To prevent gangrene in the diabetic, the following measures seem advisable: 1. The diabetes should be under control all the time. 2. The over-weight patients should control their weights. 3. A foot hygiene should be taught to all diabetics. Avoidance of trauma, eradication of ringworm, the treatment of corns and abrasions, the proper selection of shoes, socks and arch supports are some of the important items in prevention of gangrene. 4. All diabetics, even when young or middle-aged, should have their peripheral vascular status examined so that if necessary early conservative measures, active and passive vascular exercises can be early instituted.

DIABETIC CARBUNCLE: Next to gangrene, a carbuncle is the most distinctive surgical complication. The incidence of carbuncles in diabetics is low, but the mortality is over twenty-five per cent. The customary treatment consists of large crucial incisions, with undermining of the edges and Dakinization of the wound.

One must remember, however, that the process of localization is much slower in diabetics and that the degree of septicemia is not indicated by the temperature and by the white count. Both give a notoriously poor response to infection in diabetics. The proper time for incising the carbuncle is as soon as softening of the center is present. To wait for a large fluctuating mass may invite a septicemia but so does a crucial incision, when it is carried into the infiltrated mass. Twice have I encountered septic temperatures and chills with positive blood culture immediately after a radical incision. Operation is preferably delayed until the acidosis is controlled and then the soft center or centers are gently opened with the surgical diathermy current. I am convinced that the electric cautery spreads infection to a much less degree than the scalpel. As explosive gases can not be used, the intravenous injection of evipal, a barbiturate, is most helpful in producing ten to fifteen minutes of anesthesia.

In patients with a septic temperature, uncontrollable diabetes and beginning septicemia, a drastic effort must be made to overcome the generalized infection. One must not wait until a positive blood culture is obtained. The septic type of temperature, the falling white count and the appearance of a chill are ominous signs. Blood transfusion here sometimes does wonders. In 1923, I advocated daily injections of forty per cent methenamine (urotropine) in generalizing infections, and have been interested to see that the Mayo Clinic has recently treated ten diabetics with carbuncles with rest, moist dressings, rigid diabetic control and urotropine. Their results were very satisfactory.

Generally speaking, infection upsets the tolerance of the diabetic. The infections may be quite trivial; a slight cold, a root-abscess produces insulin-resistance and may make massive doses of insulin necessary. This is also true of latent tuberculosis. An eradication of an infected focus, the drainage of an abscess leads to a sudden decrease in insulin-requirement, which must be anticipated by the internist, if he is to avoid postoperative insulin reactions.

THE SURGICAL ABDOMEN OR DIABETIC COMA: The onset of a diabetic coma is characterized by nausea and vomiting, obstipation, abdominal cramps, tenderness or even rigidity, elevation of temperature, rapid pulse, dry tongue and a leukocytosis varying from 20,000 to 40,000. On the other hand, the clinical picture of an acute abdominal lesion in a diabetic is definitely vague. The temperature and white count do not indicate the severity of the appendicitis. Rigidity may be absent. A marked acidosis and glycosuria is naturally present in the diabetic suffering from an acute surgical abdomen. These are the most difficult decisions to make and should require frequent consultations of surgeon and internist. It has been my policy to observe the effect of the treatment for coma. (Fluids, glucose, insulin). If the tenderness and rigidity localize within a few hours, this speaks strongly in favor of a laparotomy, whereas in uncomplicated diabetic acidosis, the antidiabetic treatment rapidly changes the picture. It takes considerable courage to sit at the patient's bedside and withhold operation. I have explored two normal abdominal cavities during diabetic coma and delayed operation in a case of a spreading peritonitis due to a perforated appendix. The latter patient died, the first two recovered. In a doubtful case, then, if after four to six hours of energetic treatment for coma no definite improvement is noted, an exploratory operation under ethylene or local infiltration of the abdominal wall seems reasonable.

There are a great many other interesting problems in the surgery of diabetes: gall bladder disease, pancreatitis, hyperthyroidism have all this one thing in common; their surgical relief improves the sugar tolerance of diabetics and thus should be undertaken in spite of, but also because of, diabetes. This thought leads us to the second group of operations, which have been devised to treat not the surgical complications but to improve diabetes itself by surgical measures.

ATTEMPTS TO INCREASE THE SUGAR TOLERANCE OF DIABETICS: Any surgical attempt to improve sugar tolerance must necessarily answer the criticism that since the advent of insulin the treatment of diabetes is solved. Statistics from the large diabetic clinics indicate a decrease or practical absence of mortality in juvenile diabetics, who can now normally progress to adult life. Coma, according to Joslin, should disappear as a cause of mortality in diabetics. Unfortunately, however, the favorable

statistics of Joslin, Wilder and Allen, Priscilla White, can not be reproduced throughout the country. The study of four recent statistics analyzing the diabetic deaths in the states of Oregon, Washington, Minnesota and Ontario show that insulin is still not used in many cases. In Ontario, where insulin is provided free of charge to charity patients, none had been used in forty-four per cent of 192 cases of fatal diabetes and in only twelve per cent had it been used with any regularity. In averaging these four individual statistics, one can state that roughly one-third of all patients who died of diabetes had never used any insulin and that less than half of them ever tested their urine. This situation necessarily calls for a vigorous educational campaign both among the lay public and among doctors. Visiting diabetic nurses such as exist in the state of Massachusetts would play an important role in the education and treatment of diabetics and so would diabetic camps for children.

It is obvious that the diabetic child, whose uncomplicated diabetes has not been obscured by secondary changes in the cardiovascular system and in parenchymatous organs, is in the center of interest. Juvenile diabetes, contrasted with the mild diabetes of the obese, hypertensive, arteriosclerotic individual, is usually severe, difficult to control. The tolerance varies and is easily influenced by injuries, infections, or mental strain. Their insulin requirement is high, expensive and it is only quite recently that money could be obtained for some of these diabetics from the Emergency Relief Commission. In doing any type of clinical research on diabetes, my medical colleagues and I postulated that the severe type of juvenile diabetic with unstable tolerance, one that has been diabetic for at least two years and adequately controlled for several months, and one that shows no detectable vascular damage by films of peripheral vessels and ophthalmoscopy, is the type in which an operative procedure to improve carbohydrate metabolism could be undertaken with justification. We have also learned that children with any, even though healed, pulmonary tuberculosis should be carefully excluded as they later may become activated and interfere with the interpretation of results.

Obviously, these surgical attempts to increase the utilization of carbohydrates had to be based on the current theories of diabetes. Thus, if one regards the insulin-deficiency as the primary cause of diabetes, an increase in the

insulin-production of the diabetic would be desirable. It could be shown by numerous investigators that ligation of a part of the pancreas would gradually destroy the acini and increase the size and number of islets. I have repeated and confirmed these experiments and also showed with Hannett and Henderson that the sugar tolerance of normal dogs could be increased by ligating the tail of the pancreas. We later showed with Cuthbert that when the ligated tail was removed the tolerance did not drop, but on the contrary rose. This could only be explained by the stimulating effect of the removal of the tail on the remnant. We concluded that the rise in tolerance following a massive ligature around the body of the pancreas produces a hypertrophy and a hyperplasia of the islets in the ligated portion; later, however, a progressive sclerosis replaces the destroyed acinar tissue, invades the islands and a compensatory regeneration or even a hyperregeneration of the unligated portion occurs.

The experience with two diabetic children, in whom the ligation of the tail of the pancreas was performed, indicated an early unmistakable improvement in sugar tolerance; one child operated on five years ago is well and active, but requires seventy-two units of insulin on a diet of 2320 calories. He can not be called improved by the operation. The other child, who had previously spent a year in a tuberculosis sanitarium, but was completely afebrile, gaining weight, did remarkably well after the operation. Later he drifted away from us, became a Christian Scientist, dropped his diet. I understand that he now arrives frequently at smaller hospitals in coma, is taken in and carefully nursed for several weeks and then discharged to arrive in another hospital. He now has a reactivation of his pulmonary tuberculosis and as he still requires insulin, must be classified as a failure of the operation.

We have, then, two diabetic children, both of whom showed a gain in tolerance at first, but late results are entirely negative. What is the cause of this failure? One might say that the second boy was poorly selected because he had had an old tuberculous infection, because he was uncooperative and perhaps unable to get his proper food and insulin. But that certainly does not apply to the first child, who was under favorable social conditions, who is developing normally, but whose gain in tolerance did not last.

There is one much more important point to

be considered. Was the diabetes of these children really due to an insulin-deficiency? Shields Warren has shown that the absence of abnormal changes in the pancreas is striking in juvenile diabetics. He felt that there were no irreversible changes present. In both of our cases the pancreas was normal to sight and palpation, but no biopsy was taken. In the case of a man suffering from a carcinoma of the body and tail of the pancreas at autopsy no normal tissue could be found. If there was any normal islet tissue, it evaded careful search. And yet the sugar tolerance of this man was perfectly normal. These observations and others point to the fact that certain types of diabetes may not be pancreatic and that a differentiation of such a type from a true "pancreatic" type of diabetes might be important.

Nobody can deny that diabetes or at least abnormal sugar tolerance may result following acute pancreatic necrosis. Mackenzie and I have followed such cases and found that the diminished sugar tolerance may be present as high as in forty per cent after acute pancreatic necrosis but because of the marked regenerative power of the pancreas the sugar tolerance may return to normal. This type of diabetes is truly pancreatic or insular. But there are indications that an extra-pancreatic diabetes exists in which the disturbance in carbohydrate metabolism is not due to insulin-deficiency, but to the presence of factors that inhibit insulinic secretion, prevent its activation or oppose its action. These patients do not react normally to injected insulin. They are insulin-resistant.

There are a great number of factors that are capable of producing an insulin-resistance, and as I have summarized them elsewhere, I can not go into a detailed enumeration here. Suffice it to say, that Fenn, Trump and I have worked out a single clinical test, whereby the insulin-sensitivity of the diabetic patient can be determined. If the patient is insulin-sensitive, it really means that he responds well to insulin but is deficient in its secretion. If he is insulin-resistant it means that, while he may secrete enough insulin, the counter-regulatory forces oppose or inhibit its action.

From a surgical standpoint, the latter type of diabetic, namely the insulin-resistant, is of great interest. It has been known for some time that animals can be made insulin-sensitive by different methods, such as hypophysectomy, adrenalectomy, and section of the splanchnic nerves. Cuthbert and I repeated some of these

experiments and found that all these operations have one thing in common; namely, that they increase glycogen storage and glycogen-fixation in the liver. Not only does the glycogen content of the liver rise, but it is also more difficult to mobilize it with epinephrine. Partial adrenalectomy or bilateral adrenal denervation has been done by some Italian surgeons and by Crile for diabetes. Their results are difficult to interpret. Hypophysectomy in the pancreatectomized animal was capable of preventing experimental diabetes as first shown by Houssay. And so is the cauterization of a certain limited area in the hypothalamus, (Davis and Cleveland). Cuthbert and I, however, demonstrated that the excision of the coeliac ganglion could accomplish the same result. We also showed that a section of the splanchnic nerves resulted in an identical rise of tolerance as coelia ganglionectomy or adrenal denervation. This finding put such experimental methods in the realm of clinical possibilities. Splanchnic nerve section deprives the liver, pancreas, adrenals and kidneys from sympathetic innervation and is preferable to adrenal denervation as it denervates larger areas and because regeneration of nerve fibers can be more effectively prevented. For lack of time, I will just present one case history of an adolescent diabetic, whose insulin requirement could be depressed from seventy-five units to ten units by such an operation. The case was improperly selected because of the presence of slight pulmonary findings, which later became a serious problem.

Our present methods of selecting these patients depend on the test for insulin-sensitivity and the response of an alimentary hyperglycemia curve to ergot. I felt that the administration of ergot, being a sympathetic depressant and an antagonist of epinephrine, might conveniently imitate the effect of a splanchnic section. Thus, a patient, whose blood sugar curve was not depressed by ergot, could not derive any benefit from splanchnic nerve section.

So far, three patients have been subjected to this operation and the study of results is most illuminating. Thus, it can be shown, that an insulin-resistance can really be changed to a state of insulin-sensitivity and that this result seems to be one that has persisted over one year. Second, it could be shown that the alimentary hyperglycemia curve of these patients will behave similarly after splanchnic section than it did before the operation, when ergotamine was administered. This finding emphasizes the

value of the drug in the selection of cases. Third, it became clear that should there be any form of latent infection, and I am particularly thinking of tuberculosis, this will maintain a certain amount of insulin-resistance, which the operation can not overcome.

The ultimate goal of such an operation is first to take the patient off insulin, and second to stabilize his tolerance and make it comparatively independent from external factors as emotions of strain, anxiety. So far, we have not been able to take any of these patients entirely off insulin. Our best result was a reduction from seventy-five to ten units. In a second case a reduction of forty to twenty units was obtained. This result occurred after operating on one side, whereas no further reduction occurred after the section of the contralateral side. It is very probable that the operation on the second side was incomplete. This was my first case, and since that I have learned to use adequate measures to prevent regeneration. In the third case, both the insulin and ergot tests showed that no result has been obtained. He was insulin-sensitive to start with and did not respond to ergotamine.

Considering the magnitude of these operations, such results seem rather discouraging. And yet we must remember that we have selected very severe, extreme cases, with bad prognosis. A reduction of sixty-five units of insulin a day following splanchnic nerve section, is a significant result and Dr. Fenn and I have repeatedly speculated on the effect one could obtain on a milder or even latent type of diabetic. The tests on such a diabetic girl, six years old, are shown here. This child had her first urine analysis before a tonsillectomy, when a glycosuria was discovered. On a fairly liberal diet without insulin she is not only sugar free, but has a fasting blood sugar between eighty and ninety milligrams per 100 cc. And yet the tests show that, while her insulin response seems normal, she has a diabetic type of alimentary hyperglycemia and that this curve can be restored to normal by ergot. I think there may come a time when we will feel more positive that such children invariably become severe juvenile diabetics and that an operation at this stage may really prevent the outbreak of a severe diabetes.

The outlook for further progress, I believe, lies in the careful study and follow-up of these early, mild or even latent forms of diabetes. We are watching a small group of these patients

now. I think that in possession of simple clinical tests that I have described we will be able to analyze the diabetic status of these juvenile diabetics. It has been often stated that the uncomplicated juvenile type of diabetes offers the best chances for the analysis of pure diabetes. I think one may go a step further. The latent type of juvenile diabetes does not yet manifest secondary disturbances of sugar metabolism. It seems to be, at least in the cases studied, dependent on an increased sympathico-adrenal irritability, which in turn mobilizes abnormal amounts of glycogen. Whether these impulses originate in the hypophysis or in hypothalamic centers is not to the point now, but they can be effectively interrupted by severing those two important cables, the splanchnic nerves, which connect the central nervous system with the abdominal brain, namely, the coeliac ganglia.

I think these early gropings into the fundamental causes of juvenile diabetes and its surgical relief will illuminate to you a tendency in surgical research. This research is beset with difficulties, pitfalls and disillusionment. But out of the scattered fragments some Siegfried will forge the all-powerful sword that conquers the dragon of diabetes.

BROMIDE INTOXICATION

EDWARD H. HASHINGER, M.D., and
CHARLES C. UNDERWOOD, M.D.*

Kansas City, Kansas

The bromides are perhaps the most commonly used drugs in all branches of medicine, yet many practitioners are unaware of their toxicity and the potentialities for harm when their use is not carefully controlled by either clinical or laboratory methods. As a clinical entity, bromide intoxication has been recognized for some time by the psychiatrists. However, it is not infrequently observed in a general medical service and may give rise to some very puzzling diagnostic problems; that we have had five such cases during the past six months is proof enough of this statement.

Bromides were discovered by Balard in 1826 and introduced into therapy by Graf in 1840. Huette is credited with the first report of a case of bromide intoxication. According to An-

*From the Department of Internal Medicine, University of Kansas.

drews¹ one of the earliest occurred in the family of an English apothecary in the late eighties, the servant having filled the salt-cellars from the barrel containing sodium bromide, which was next to the barrel of sodium chloride. The entire family developed a toxic psychosis which cleared up after several weeks. Landenheimer² in 1901 was the first to point out the relation of the chloride intake and bromide retention, noting that an increase in the chloride intake diminishes the bromide depot. He also pointed out that we get early bromism in anemia and cachexia in which the body fluids are poor in chlorides, and in kidney and heart disturbances with the incidental fluid retention. It was not until 1927, however, that the diagnosis of bromide intoxication was placed on a scientific basis by the publication of Wuth's³ paper in which he describes the method of quantitative determination of the blood bromides. He also reported twenty cases of bromide intoxication admitted during a six months' period at the Henry Phipps Psychiatric Clinic of the Johns Hopkins Hospital. In 1930 Diethelm⁴ reported nine cases of his own from the same clinic. He stated that forty per cent of all admissions to the Phipps Psychiatric Clinic during the course of a year had taken bromide, but only two per cent showed toxic symptoms. In 1930, Wagner and Bunburg⁵ studied one thousand consecutive cases admitted to the Colorado Psychopathic Hospital in regard to their serum bromide content. Of this number forty-four showed mental symptoms which were due to or increased by bromides, seventeen sought admission solely on account of intoxication due to bromide, two of them dying purely from bromism. Doane and Weiner⁶ in 1931 reported four cases of bromide intoxication admitted on a general medical service. Sippi and Bostock⁷ reported nine cases in 1932, emphasizing the fact that only one was associated with a bromide eruption. Wainwright⁸ in 1932 contributed five additional cases to the literature, stressing the importance of the intelligent use of bromides.

Solomon⁹ described the pharmacologic action of the bromides as follows: "They depress the entire central nervous system, with the exception of the medulla, depressing the psychic functions, the motor cortex and the spinal cord—lowering its reflex excitability. The muscle tone is lowered throughout the entire body. Ordinary doses have no effect on the circulation, but larger doses depress the heart

and vasoconstrictor center. They lessen arterial tension and lower body temperature, depress sexual appetite and power, and cause pallor, acne on the face and extremities, coated tongue, disordered digestion, emaciation, somnolence, sluggish reflexes and defective coordination. They may be responsible for impairment of the mental faculties, with hallucinations and delusions, or cause melancholia or maniacal excitement."

Bromides are not excreted by the kidney as rapidly as chlorides and tend to remain in the blood replacing partially the chloride ion, however, Andrews¹ makes the statement that bromide intoxication will not occur if sodium chloride is ingested in sufficient quantities to take care of the body metabolism six to ten grains per day.

The clinical picture of bromism is very diverse; anorexia, constipation and loss of weight may be the first symptoms. Nausea and vomiting are also common. Bromide eruption and conjunctivitis are comparatively infrequent. The mental manifestations of bromide intoxication are characterized by psychic deterioration, in which the patient is dull, stupid and apathetic. The attention and retention, as well as the judgment and the association of ideas become greatly impaired. A typical delirium often develops. Speech may be disturbed. Active hallucinations, delusions and dreamlike states are prominent and are mostly persecutory and terrifying in nature. The mood is variable, usually depressed, but may be euphoric. If the attention is gained the response is often good.

The temperature may vary from normal to 103 F., the pulse usually being quite rapid. The neurological manifestations may be ataxia, tendon reflex changes—exaggerated or diminished—unequal, irregular ankle clonus, pseudo-ankle clonus, bilateral Babinski, tremors of the hands, face and other parts. The pupils are frequently dilated, but may be contracted and are often irregular and unequal. Andrews¹ found absent or diminished gag reflex in all of his cases. The pupils react sluggishly or not at all to light. Speech is thick and often indistinct. Sensory anesthesia, paresthesias and hyperesthesias may occur. The general excitability of the nervous system is greatly lowered. There may be circulatory disturbances evidenced by weakness and lowering of tension. Genito-urinary disturbances as retention or diminution of urinary output, menstrual irregularities, and lowering of sexual function are common.

REPORT OF CASES

Case 1.—Mrs. A. B., white, age fifty-seven, was first admitted to Bell Memorial Hospital January 10, 1934, because of cardiac decompensation secondary to arteriosclerotic heart disease. She had a very stormy course during her ten weeks' stay in the hospital, but at the time of dismissal her heart was compensated and she was able to walk about without dyspnea. During her illness numerous sedatives were tried without success until triple bromides were prescribed. This drug being very effective in relieving her "nervous tension," she was dismissed March 23, 1934, with directions to take two or three fifteen grain tablets daily as needed.

Present Illness: She progressed very well at home until April 25, 1934, at which time she became nauseated and vomited repeatedly. She had also complained of very severe constipation. At the same time her husband noticed an increasing mental dullness, and on the day prior to her readmission April 28, 1934, she was very confused and was disoriented as to time and place. She had also had many visual hallucinations; one that was especially real to her was that the walls of her room were on fire.

Medication: After reviewing her medication we found that she had received 149 fifteen-grain triple bromide tablets during a period of sixty-seven days; the total dosage in grains being 2235, a daily average of 33.35 grains.

Physical Examination: Obese white female in no apparent physical discomfort; there was no evidence of "congestive heart failure." The pupils were equal and regular, but reacted sluggishly to light. The lungs were negative. The cardiac dullness extended one cm. to the left of the midclavicular line. Heart rate 100, fibrillation, tones distinct and no murmurs. The neurological findings included absence of knee kicks, neutral plantar response, muscular incoordination, ataxia and the presence of the Romberg sign.

Mental Examination: Patient quite confused, failing to recognize her former attendants. She was often very delirious, crying out because of her terrifying hallucinations or delusions.

Laboratory Examinations: The Walter-Hauptman test on May 2, four days after admission was 269.3 mgm. of sodium bromide per 100 cc. of blood serum. The daily changes in this determination can be seen in curve 1, Fig. 1. The bromide determination of the

spinal fluid on the same date was 117.8 mgm. bromide per 100 cc. spinal fluid. The spinal fluid and blood Wassermann tests were negative. Lange Colloidal Gold 0000100000. The urine was positive for bromide, otherwise negative. Blood chemistry normal, chlorides (total halogen) 480 mgm. per 100 cc. of whole blood.

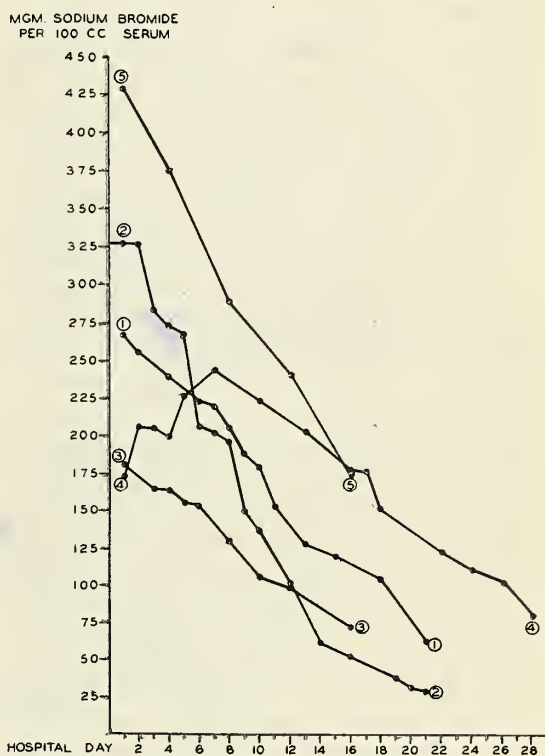


Fig. 1—Graph showing the sodium bromide content of the blood serum in the five cases as numbered. Treatment was started immediately upon diagnosis of each case except number 4, where it was not started until five determinations had been made.

Course in Hospital: During the first fourteen days in the hospital she was quite delirious at times, both visual and auditory hallucinations were prominent features and were very real to her. Her temperature varied from normal to 104 degrees F. on one occasion. One night she became so frightened that she got out of bed while her nurse was at lunch and hid in the closet, saying that several men were after her with guns. Persecutory delusions were frequently present. Nausea and vomiting occurred frequently and obstinate constipation was always present. The bromides were stopped immediately after admission because we recognized that they were probably the cause of her delirium; after this suspicion was confirmed by the blood bromide determination, sodium chloride in dram doses was given three times

daily by mouth. Her toxic symptoms entirely disappeared after the serum bromide fell below 150 mgm. per 100 cc. and did not return.

Case 2.—Mrs. L. G., white, age thirty-eight, was admitted on the medical service of Bell Memorial Hospital May 18, 1934, in a delirium.

Present Illness: According to her husband she consulted the family physician about six weeks prior to admission because of swelling of her ankles and pain in her abdomen. The diagnosis of acute Bright's disease was made, and she was placed on a salt free diet and given pure sodium bromide to use on her food as a table salt substitute. On the day before admission she became quite delirious and was difficult to control, her husband stating that she was raving mad. She had many delusions and hallucinations. Her physician was called and apparently did not recognize her condition, but referred her to the hospital for diagnosis and treatment.

Medication: During the forty-eight days before admission she took 374 grams of sodium bromide and 512 grains of bromides in an effervescent bromide mixture, making a total of 6,122 grains, a daily average of 128.5 grains.

Mental Examination: The patient was irrational, her memory was poor, she talked about being in labor; in fact, she said that she delivered during her first night in the hospital and that her mother took the baby home. She was disoriented and very noisy. The speech was slurred, and incoherent at times.

Physical Examination: The patient was moderately well nourished and rather pale, and extremely restless. The eyes rolled in all directions, pupils were eccentric and reacted sluggishly to light and accommodation. The skin had a dusky tint, but there were no eruptions. The patient was very dehydrated, the tongue being heavily coated. Thyroid not enlarged, no adenopathy. Heart and lungs negative, B.P. 124/94. Abdomen negative. The knee jerks were absent, no plantar response. The patient was unable to stand alone, but had marked ataxia when attempting to walk with help.

Laboratory Examinations: The Walter-Hauptman test on May 19, 1934, showed 321 milligrams of sodium bromide per 100 cc. of serum. The concentration in the spinal fluid was 121.5 mgm. of bromide per 100 cc. The Blood and spinal fluid Wassermann's were negative. The urine examination showed a faint trace of albumin, otherwise negative. The

blood count was: erythrocytes 3,780,000, hemoglobin sixty-five per cent, leukocytes 5,400, polymorphonuclears eighty-three per cent. Blood chemistry: N.P.N. 31.6, creatinine 1.5, sugar, 79, chlorides (total halogen) 490. The subsequent bromide determinations can be read by consulting curve number 2, Fig. 1.

Course in Hospital: Bromides were stopped immediately—during the first three days her symptoms were greatly aggravated, she was so loud and disturbing to other patients that she had to be isolated, and so irrational that she had to be restrained in bed. At times she did not recognize her relatives or attendants. She became frightened at times because of her many hallucinations. During the first ten days her temperature was elevated to 100 degrees F. daily and on one occasion it was 102 degrees F. Sodium chloride, three drams daily, was prescribed, and she was given 1500 cc. of normal saline by hypodermoclysis every other day during the first ten days. It seemed that she became more delirious on the days she received the saline, but was markedly improved the following days. The greatest drops in the blood bromides concentration followed hypodermoclysis. She became more anemic, the hemoglobin falling to fifty per cent, for which she was given one blood transfusion. After the tenth day her delusions and hallucinations had disappeared, and she was perfectly normal mentally. She was dismissed June 8, 1934, and to date there has been no recurrence of symptoms.

Case 3.—Mrs. W. L., white, age forty-six, had been under observation for psychoneurosis-hysteria for a period of two months. She complained of vague aches and pains all over her body, backache and headache being the most persistent. She had been seen in consultation by almost every physician on the staff, none diagnosing organic disease. She was given a four ounce mixture containing six drams of sodium bromide, to take a teaspoonful three times daily. About one month later she developed marked psychotic symptoms, characterized chiefly by auditory hallucinations and delusions of persecution. She accused her physicians of talking about her, of telling that she had been immoral and that she was "crazy." She also developed a bromide eruption.

Medication: The tonic prescribed contains 11.3 grains of sodium bromide to the dram, thus she received ninety drams or 1017 grains of sodium bromide, and in addition she received gr. xl as an h.s. order several times making a

total dosage of 1057 grains, the daily average being 35.2 grains./

Laboratory Examinations: The Walter Hauptman test showed 166.9 milligrams of sodium bromide per 100 cc. of serum on May 23, 1934. The Wassermann test on the blood and spinal fluid was negative. The urine was negative except for positive bromide test. The blood count and chemistry was normal. Subsequent bromide determinations can be ascertained by referring to curve 3, Fig. 1.

Course in Hospital: Bromides were discontinued and sodium chloride was given by mouth, one fifteen-grain tablet four times daily. There was a gradual improvement in her mental condition, and at the time of her dismissal June 7, 1934, her symptoms of bromism had disappeared, but she was still very psychoneurotic, believing that she has some terrible ailment that the "doctors" were unable to diagnose.

Case 4.—J. J. McG., male, age sixty-seven, admitted to the hospital February 21, 1934, because of a left hemiplegia following a cerebral hemorrhage or thrombosis. He had developed a mild arteriosclerotic or senile psychosis before admission, and after he was given barbiturates his condition was greatly aggravated. After being without sedatives for a time he was given sodium bromide and during a period of seventeen days he received 1100 grains, a daily average of 64.7 grains.

Physical Examination: An undernourished white male who was not acutely ill. There was bilateral arcus senilis; generalized arteriosclerosis; pupils regular and equal, reacting normally to light and accommodation; teeth in poor condition; heart, lungs and abdomen negative. Except for disuse muscular atrophy the extremities were negative, the patient being completely bedridden. Neurological examination revealed marked increase in all the tendon reflexes on the left, and muscular rigidity on the same side, the extremities assuming the flexed attitude characteristic of spastic paralysis. Babinski present on the left.

Laboratory Findings: The Walter Hauptman test on May 7, 1934, was 173.2 mgm. per 100 cc. of serum. The highest reading was 242.4 on May 16 a few days after the bromides were discontinued. The spinal fluid bromide concentration at that time was 121.7 mgm. per 100 cc. The subsequent determinations can be read on curve number 4, Fig. 1. Blood and spinal Wassermann's negative.

Course in Hospital: For a time after the administration of bromides this patient seemed to improve, that is, he seemed less irritable, but later his symptoms were made much worse and the drug was discontinued. He became extremely unruly, disturbing the entire floor. He had many delusions and hallucinations. One that recurred quite often was that the world was burning, and he would cry because he was not able to save himself and his attendants. After his blood bromides fell below 154 on May 27, he showed considerable improvement, and was able to feed himself—during his delirium he had to be fed by the nurses and by a stomach tube on a few occasions. However, this patient's organic illness makes him a permanent hospital case and commitment to a state institution was recommended.

Case 5.—I. M., female, married, age eighteen, sent into the Hospital August 19, 1934, by her local physician with the diagnosis of "toxic goiter," her complaints being choking sensations, difficulty in swallowing, nervousness, fast heart, and weakness. She states that she was perfectly well until a supposed miscarriage in 1931, which she thinks was brought on by excessive work placed on her by her mother-in-law; this was two years before admission. The following year at a pregnancy she noticed a swelling on the neck and choking spells. Five months before admission she was operated on and appendix removed. Now she has pain in the left lower quadrant, which she states her local doctor diagnosed as due to hyperthyroidism, but which she thinks due to her ovary, "which he should have removed when he took out my appendix." Since this operation she has been more nervous than usual, and has taken very large doses of nerve medicine—"more than the doctor prescribed." He states that he ordered seventy-five grains daily of sodium bromide, which she took for seven weeks, a total of 3150 grains, but according to her story she probably took a much greater amount. Past history revealed that the patient has been somewhat of a nervous disposition most of her life, and shortly after marriage she began to have frequent nervous spells. There is a very definite social complex which has given her considerable mental anguish and worry. This social history discloses ideas of persecution, abuse and neglect. She was now decidedly paranoiac and rather difficult to handle in the hospital.

Laboratory Examinations: The Walter-Hauptman test showed 428.5 mgms. of sodium bromide per 100 cc. of serum August 20, 1934; chlorides (total halogen) 650 mgm. per 100 cc. whole blood; urinalysis negative, except for positive bromide test. Blood count and chemistry were normal. Subsequent bromide determinations were made, as shown in curve 5, Fig. 1. Basal metabolic rate showed plus sixteen, and plus eighteen.

Course in Hospital: Bromides were immediately discontinued, and she was given sixty grains of sodium chloride daily by mouth. Rapid improvement in her mental condition was observed, and she was dismissed two weeks later at which time her blood bromides were 172 mg. Her pulse had returned to normal, and she no longer had the choking sensation. She was directed to continue the taking of sodium chloride for another four weeks.

COMMENT

Five cases of bromide psychosis are reported, having been observed during a period of six months on a general medical service. In only one of these cases was the daily dosage of sodium bromide above the ordinary therapeutic dosage as recommended by the pharmacopoeia. In the diagnosis of bromide delirium one must differentiate it from acute and chronic alcoholism, Korsakoff's syndrome, encephalitis, brain tumor, senile psychosis, uremia, dementia paralytica and taboparesis. The threshold of intoxication varies from 150 to 200 milligrams of sodium bromide per 100 cc. of blood serum, the majority giving 150 as danger zone, which represents about twenty per cent replacement of the chlorides by bromides. A rather high

bromide concentration may be necessary for the optimum therapeutic results in such conditions as epilepsy, but if the convulsions are not controlled at 175-200 mgm. per 100 cc. serum, Wuth advises against further bromide therapy.

In all suspected cases the diagnosis can be made more probable or ruled out by the qualitative test for bromide in the urine. Wuth describes the procedure as follows: To 25 cc. of urine, add 1.0 Gm. of animal charcoal; mix well, allow to stand a few minutes, and filter. To 5 cc. of the filtrate, add 1 cc. of thirty per cent trichloroacetic acid and 1 cc. of 0.5 per cent gold chloride solution. A brown shade denotes a positive reaction. Sharpe states that this test is not specific and that iodides produce a similar color with gold chloride. Our laboratory uses the Walter modification of the Hauptman method, which involves the use of blood serum with the addition of gold chloride, producing a color change corresponding to the bromide concentration, varying from yellowish green brown to a red brown. The procedures for the determination of the blood bromides and spinal fluid bromides, together with the directions for making the standard solutions can be found by consulting Katzenbogen and Goldsmith's paper.¹⁰ One important fact to remember is that the method of quantitative blood chloride determination is not specific for chlorides, but represents all the halogen group. In spite of the fact that the blood bromide level may be quite high, the blood chloride determination may be lower than normal because of the higher molecular weight of the sodium bromide. One mistake to be avoided in the making of the bromide standard is to use the pure salt, as the crystals contain two molecules of water of crystallization.

Case No.	Age	Sex	Diagnosis	Days of Bromide R	Total grains Bromide	Daily aver. grains	Mgms. NaBr per 100 cc. blood serum	Symptoms
1	45	M	Psychosis	40	1,800	45	143	Parasthesias
2	35	F	Hypogonad.	118	7,080	60	135.1	Numbness, etc.
3	52	F	Endocrine	101	6,060	60	100.0	None
4	54	F	Art. Scler.	28	1,260	45	83.3	None
5	42	F	Nephritis	10	600	60	122.9	Dizziness
6	40	F	Endocrine	140	8,400	60	33.3	None
7	45	F	Psychosis	172	5,160	30	212.7	None
8	53	F	Cholecyst.	25	1,500	60	92.0	None
9	34	F	Neurasthenia	62	3,720	60	64.9	None
10	77	M	Nephritis	21	472	23	168.5	Slight Delirium
11	45	M	Arthritis	24	2,040	85	168	None
12	40	F	Endocrine	54	2,430	45	172.4	Tremor, hand & tongue
13	43	M	Arthritis	24	1,260	52.5	273	Mildly irrational
14	(Above patient)			26	2,080	80	389.6	Paranoia & delirium
15	17	F	Amenorrhea	74	4,440	60	46.3	None

Fig. 2—Table showing blood bromide determinations on 15 patients seen regularly in the Out-patient Department of the University of Kansas Hospital, where we were able to tabulate the duration of bromide administration, the average daily dosage, total amount of bromide given, and the toxic symptoms if any were present. Case 14 is same as Case 13, but four months after complete recovery from first bromide dosage.

If the salt is not available the water can be driven off by heating for a short time in a dry oven.

Mgms. Sod. Bromide per 100 cc. of blood serum	Mgms. Sod. Bromide per 100 cc. of spinal fluid
280.8	130
280	121
275	112
270	110
250	112
225	98

Fig. 3—Showing comparative amounts of sodium bromide in the blood serum and spinal fluid of the same patient on the same day; determinations on four patients.

SUMMARY

In order to ascertain which type of patient is most likely to develop bromide retention we have run blood bromides on a small series of patients in our out-patient department, both the total and daily average bromide dosage being known to us. Of interest is that Test Case Number 7 had a blood bromide concentration of 212.7 mgm. per 100 cc. serum after taking thirty grains daily for 172 days, yet had no symptoms of bromism. Test Case Number 10 with arteriosclerosis and hypertension and chronic nephritis developed a mild delirium when the blood bromides reached 168.5 mgm. per 100 cc., which disappeared after the drug was discontinued. This patient took but 22.5 grains for a period of twenty-one days. Further comparisons are tabulated in Fig. 2.

Thinking it possible that bromide determination on the spinal fluid might be a more sensitive indication of the patient's mental state, we did a small number of such determinations. The relation of the findings of sodium bromide content of spinal fluid and blood serum taken at the same time on the same patient is shown in Fig. 3. From this it can be seen that the blood bromides and spinal fluid bromides run closely parallel, and the spinal fluid determinations cannot therefore be considered superior to those of the blood serum in making the diagnosis or prognosis.

The treatment is supportive and eliminative. All medication containing bromide should be discontinued immediately. If the patient's condition is such that he is unable to take sodium chloride by mouth, sodium chloride should be given by hypodermoclysis. It was given intravenously in Case 4 of our series, but is not necessary. In the majority of patients the administration of six to eight grams of sodium chloride by mouth daily is adequate. Some authors warn against the too rapid replacement of bromides

with chlorides, as the symptoms may be aggravated by driving the bromides from the tissues with a resultant increased concentration of them in the blood.

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GIANT CELL TUMOR*

Report of Case Involving Mastoid

HOWARD L. SNYDER, M.D.

Winfield, Kansas

Giant cell tumor is defined as a benign growth in bone characterized by the presence of giant cells of the foreign body type. It is most frequently found in the ends of long bones, but is found in the shaft also. It occurs in the jaw as an epulis and also may occur in the flat bones and the vertebrae.

The exact cause is not known. Trauma may be a possible exciting factor. It has been considered an inflammatory reaction and Barrie¹ has given it the name Hemorrhagic Osteomyelitis. The name "benign giant cell tumor" defines it definitely as not true sarcoma. Coley,² however, has held "that there are certain number of giant cell tumors which are originally, or become later, malignant metastasizing tumors and that it is not always possible for the most experienced pathologist to differentiate the malignant from the benign type in the early stages of the disease." He does not, however, wish all these to be treated as malignant disease but recommends the removal of the tumor itself.

The tumor is vascular and resembles granulation tissue, its color is mottled on the surface with yellowish areas scattered throughout it.

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usually lighter at the center than at the periphery. The lighter color in the center is apparently due to degenerative changes and the center of the tumor is usually softer than the outer portion. It is fairly firm, is easily shelled out of its capsule and when it has perforated the bone may be quite firmly adherent to surrounding tissue and may bleed quite profusely. Ewing and Herendeen³ have emphasized hemorrhage as one of the dangers of surgical removal and infection the other, the latter due in most instances to the failure to obtain primary union. Microscopically these tumors are made up of fibroblastic cells, round cells, and numerous blood capillaries resembling granulation tissue, with typical giant cells of the foreign body type.

Haas⁴ says "pain may be the first symptom, often swelling appears without any previous disturbance. The tumors are usually of slow growth and seldom occur before twenty years of age." Although the one I am reporting today appeared at eight years of age. "They usually appear at the end of the long bones although cases have been reported in the middle of the shaft. They do not break through the periosteum ordinarily, but when they do they retain their benign nature. They may extend from one bone to another along interosseous membranes, they seldom invade the epiphyseal plate but spread away from it, thus differing from malignant tumors."

These tumors must be differentiated from osteitis fibrosa and from sarcoma and are sometimes found associated with bone cysts. Cases have been reported in which there has been a transition of osteitis fibrosa to giant cell tumor. An early sarcoma may be difficult to differentiate but in the later stages the marked bone destruction with infiltration and more rapid growth in malignant tumors' changes the picture. Exploratory incision or biopsy is necessary for positive information. It was formerly held that biopsy was not justifiable in these cases but more recently it has become accepted as a good procedure, reasoning that the advantage to be gained is greater than the risk assumed.

The treatment is ordinarily surgical for if they do recur it is at the original site and they do not metastasize. Irradiation is used with varying success. The use of Coley's toxins, with or without surgery, and with or without irradiation, has yielded good results in Coley's

hands. There is no objection to the use of Coley's toxins after surgery and in some cases irradiation has unquestionable advantages. Thorough curettage down to healthy bone remains the procedure of choice.

REPORT OF CASE

P. T., age eight, white, female, was first seen December 13, 1934, complaining of a painless swelling behind the right ear. A small lump behind the right ear was noticed in August, 1934. This grew rather slowly for the first two months, but quite rapidly thereafter. The patient did not have a cold, sore throat, earache, or any discharge from the ear. There was no associated pain or tenderness. There were no other complaints. Her health had always been good, and there was no family history of tuberculosis or cancer.

She was fairly well nourished, and her color was fairly good. Behind the right ear was a globular tumor with a sessile base blending with the skull. The growth pushed the ear outward and forward, and apparently arose from the mastoid and adjacent skull. It measured about eight centimeters across at the base and extended out at least five centimeters from the skull. The skin over it was pale and freely moveable, but the veins were a little prominent. There was no discharge from the ear. The tumor mass was somewhat soft, but did not fluctuate and was not tender. There were no enlarged glands in the neck nor any abnormal pulsations. There was no evidence of cranial nerve involvement. The teeth and gums were in good condition. The tonsils were large, but not inflamed. The heart, lungs, and abdomen were normal. The pulse rate was eighty. The temperature was 98.6. Reflexes in the extremities were normal.

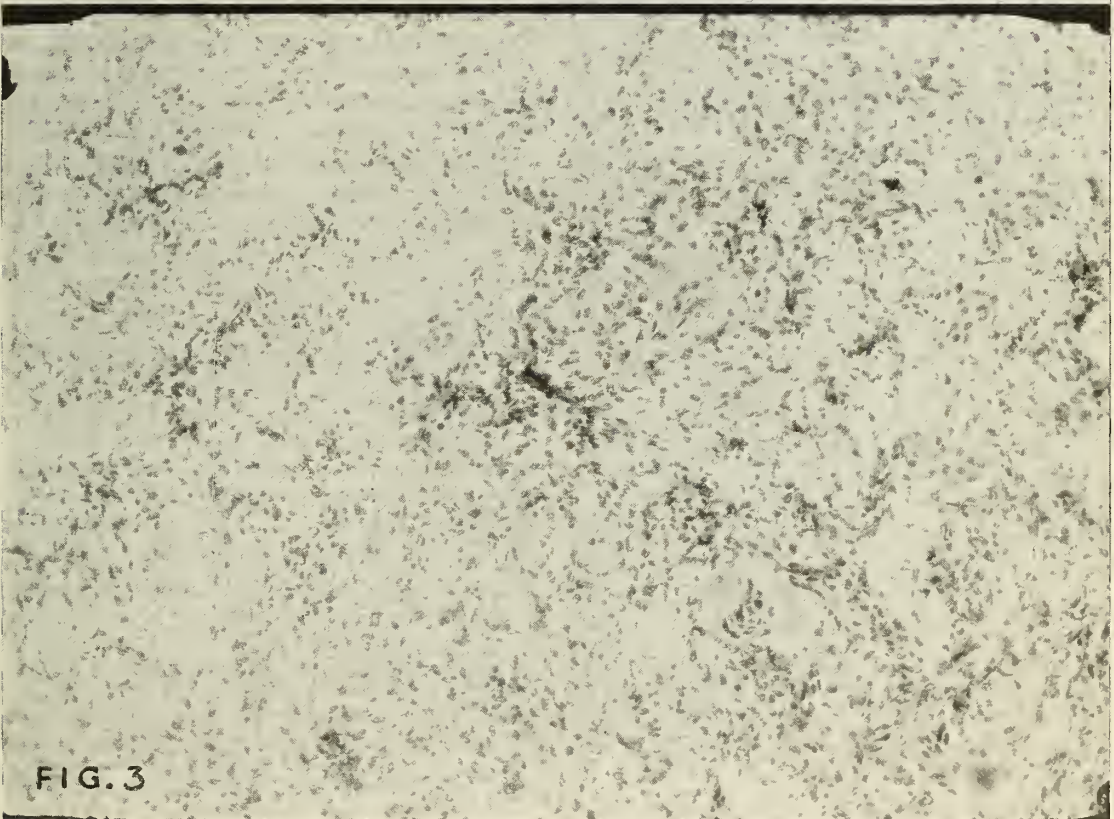
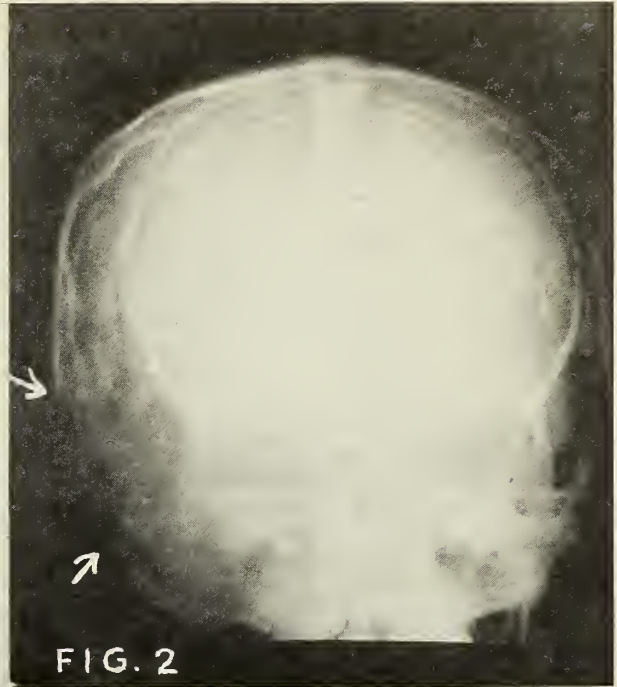
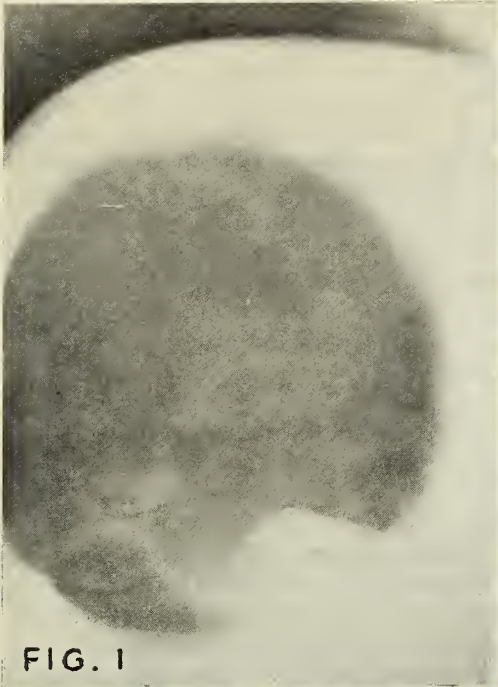
A roentgenogram showed destruction of both plates of the skull with about two-thirds of the mastoid, the opening into the skull measuring about five centimeters in diameter.

After consultation with Dr. Thor Jager of Wichita, who saw the patient, and Dr. E. H. Skinner of Kansas City, who reviewed the roentgenograms, biopsy was decided justifiable. The patient was admitted to St. Mary's Hospital on December 31, 1934. On January 1, 1935, under ether anaesthesia, a biopsy was done through a curved incision behind the ear. The periosteum was opened and a piece of tis-

Fig. 1—Lateral view of mastoid area showing extensive destruction of mastoid and both plates of skull.

Fig. 2—Anterior posterior view of skull.

Fig. 3—Section of biopsy specimen.



sue, one by one and a half centimeters, was removed. When this piece from the periphery of the growth was removed, over an ounce of tumor contents was spontaneously expelled through the incision. This was greenish yellow in color, highly cellular, and moderately vascular. The wound was dried, then packed with gauze saturated with ninety-five per cent alcohol for five minutes and then closed.

The tissue was studied by Dr. H. H. Jones of Winfield, Dr. Thor Jager of Wichita, and Dr. Frederick C. Narr of Kansas City. Each of these with Dr. E. H. Skinner agreed that it was a benign giant cell tumor and advised surgical removal of the growth.

Following the biopsy the patient vomited for several days and her blood count dropped to hemoglobin seventy-five per cent, red blood cells 3,780,000. A donor for blood transfusion was secured and on January 7 the first stage of removal was done.

At operation the growth was found to be even more extensive than was suspected, nearly all of the mastoid was involved and destroyed, there was a hole five centimeters in diameter in the skull above the mastoid process and the growth was found to extend intracranially beneath the cerebrum along the superior surface of the petrous portion of the temporal bone. The dura seemed intact as did the pericranium on its outer surface. All of the growth was removed outside of the skull and all of it on the inside except the deepest portion of the growth beneath the cerebrum. The growth was quite adherent to the dura and the periosteum and in curetting it away there was excessive hemorrhage. When that portion over the lateral sinus was removed there was free bleeding from the sinus and the patient showed signs of shock with a very weak, rapid pulse and cold extremities. Without completing the operation, the wound was packed, first with gauze soaked with ninety-five per cent alcohol, and then with a dry gauze pack, and the wound was closed loosely over the pack. She was immediately given Venoclysis of five per cent Glucose in physiological salt solution, then 160 cc.'s of whole blood before leaving the operating table. She reacted quickly and by evening the pulse was under 100 and her condition was good.

Another blood transfusion was done on January 8 and on January 21 the operation was completed. The second stage was done without difficulty and without excessive hemorrhage.

In the operative procedure all of the mastoid cells were completely cleaned out and the edges of the bone around the opening in the skull were nipped away back to normal bone. Most of this was done at the first stage and a very careful clean-up was done at the last stage. The wound was again thoroughly dried, packed with gauze saturated with ninety-five per cent alcohol and every portion wiped out with alcohol. A rubber wick drain was inserted and the wound was closed with interrupted silk sutures. The drain was removed in forty-eight hours. The recovery was continuous and uneventful. She returned to school on the eighteenth day of February and the wound was entirely healed by February 24.

In conclusion a summary may be of interest. A brief resume on giant cell tumor has been given. A case has been reported occurring in a child of eight years of age, the growth involving the skull extensively and encroaching upon the intracranial contents. There was no pain associated with the growth. A biopsy study established the diagnosis of giant cell tumor. Surgical treatment by curetting away the growth was done in two stages because hemorrhage at the first operation necessitated cessation of the operation and emergency treatment for shock. An uneventful recovery followed the completion of the second stage of the operation. The ultimate result is yet in doubt because less than two months have elapsed since removal of the growth.

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C. W. Rutherford, Iowa City (J.A.M.A., April 27, 1935), states that diagnoses of undulant fever were made in sixty-three patients admitted to the University Hospital from June 1927 to August 1934. Three of the series, white men aged from 20 to 27 years, showed disk changes. The three were admitted within a period of fifteen months. Melitensis infection of the central nervous system occurs occasionally with or without ocular complications. A summary of sixty-three cases of undulant fever shows that in three there were bilateral papilledema, an increase in the spinal fluid pressure, mononuclear pleocytosis and evidence on which to base a diagnosis of infection of the central nervous system by some variety of the melitensis organism. Five cases were found in the literature; the disk changes observed in them can be interpreted as papilledema. The diagnosis of undulant fever is admittedly difficult. Papilledema is occasionally found in patients in whom the symptomatology is indefinite and leading signs are absent. It is in such cases that undulant fever should be considered in the differential diagnosis.

THE DYSTOCIA OF THE VERTEX PRESENTATION*

LOUIS RUDOLPH,† M.D.

Chicago, Illinois

Of the cephalic presentations the vertex presentation remains the most important problem in the mechanism involved, in the diagnosis, and the management. The basic principle is one of physiology of the mechanism of labor which, when applied to the clinical course of labor will make it safer for the mother and the child. The vertex presentation dystocia is in the main due to a disturbance of the physiology of the uterus characterized by a definite dystocia syndrome, and when managed with intelligent expectancy, and the prevention of maternal exhaustion will be found to give the best results to the general profession.

The mechanism of labor, as expostulated by Naegele, was based on his obstetric knowledge of the physiology of the natural phenomena of labor. The division of the mechanism of labor into movements was based on natural phenomena instead of on the premises of the mechanical theorem that the bony pelvis was of primary importance.

A consideration of the normal mechanism of vertex presentation involves three factors: the posture of the fetus, physiology of the uterus, and the bony pelvis.

The normal posture of the fetus is due to a fetal postural mechanism. During the embryonic period and up to about the middle of pregnancy the fetal posture is one of flexion. From the middle of pregnancy to term the fetal head is either in flexion or in a partial deflexion attitude which is due to the fetal postural mechanism whether the station of the fetal head is floating high or low. With the onset of labor, uterine contractions cause flexion of the fetal head during the contraction phase of a uterine contraction, but during the interval between the contractions the lever or wedge action to account for the mechanism is absent, because there is no force applied to the fetus and the head will remain in an attitude of flexion or will return to partial deflexion brought about by the fetal postural mechanism. This attitude of flexion is the important movement for the normal mechanism of labor.

The physiology of the uterus during normal labor consists of the physiologic division of the uterus into two segments, the upper and lower uterine segments. The different physiologic responses of the two segments are dependent upon a uterine contraction. The unit of work accomplished by the uterus is dependent upon the physiology of a uterine contraction on the longitudinal and circular muscle fibers of the uterus. Each uterine contraction exhibits three phases in either segment of the uterus. In the upper uterine segment it consists of (1) contraction, (2) relaxation, (3) retraction or permanent shortening of the muscle fibers; while in the lower uterine segment they are (1) contraction, (2) relaxation, (3) stretching or thinning in tone of the muscle fibers. The upper and lower uterine segments during a contraction, function in a synchronous manner, so that during a normal uterine contraction of the first stage of labor we have a synchronous retraction or permanent thickening of the upper uterine segment, a stretching or thinning in tone of the lower uterine segment, rising of the retraction ring, and relaxation in tone of the circular muscle fibers of the lower pole of the uterus leading to effacement and dilatation of the cervix uteri. When the uterine contractions function as described, we have true uterine contractions with a resulting progressive dilatation of the cervix. But, if the uterine contractions do not result in retraction or permanent shortening phase of the upper uterine segment, and no stretching or thinning phase of the lower uterine segment, then the retraction ring does not rise, and no work is being accomplished. Such contractions are referred to as false labor pains, or more accurately, false uterine contractions explaining prolonged or slow cervical dilatation. During a prolonged first stage of labor the uterine contractions frequently change from true to false in the reverse order which explains why the prolonged cervical dilatation accounts for the prolonged first stage of labor. It is essential to understand that cervical dilatation is not a local manifestaion, but rather the manifestation of uterine changes as a whole. Rudolph and Ivy¹ designated cervical dilatation as the "barometer" of the physiologic motor activity of the uterus.

When the uterus manifests disturbance of its physiology by prolonged cervical dilatation this condition is frequently complicated with arrested or prolonged internal anterior rotation of the fetal head as demonstrated by Rudolph and

*Read at the State Meeting in Wichita on May 10, 1934.

†Professor of Obstetrics, Cook County Graduate School of Medicine. Attending Obstetrician, Cook County and Mount Sinai Hospitals.

Ivy.¹ Another manifestation of uterine dysfunction is a delay in the "phenomenon of lightening." Lightening normally takes place during the last month of pregnancy and is the final preparation of the uterus for labor caused by an active relaxation of the lower uterine segment and the passive descent of the presenting part into the pelvic cavity. But, this "phenomenon of lightening" may be delayed to the onset of labor, to any period of the first stage of labor, and, occasionally, to the second stage of labor which accounts in many instances for the high or floating head in cases of normal cephalo-pelvic relation.

The bony pelvis plays a passive role during the first stage of labor in a normal cephalo-pelvic relation. It is essential to recognize the natural course of labor in that in the majority of occiput posterior positions the movement of internal anterior rotation takes place during the first stage of labor when the presenting part is in utero to an occiput anterior position, so that the pelvic cavity does not take any part in this movement.

An etiologic basis of the cephalo-pelvic relation is of prime importance in the management of the patient during pregnancy and labor. The conditions present will determine the indication and our diagnostic ability and experience will determine the safety of the selected procedure for mother and child. The interpretation of the etiologic factor will in the main decide whether the delivery will be abdominal or vaginal. The author will classify the etiology of the vertex presentation when complicated by dystocia into functional and mechanical.

The Functional Dystocia forms the most important group because clinical experience teaches that when a vertex presentation is complicated by a prolonged first stage labor with no evidence of cephalo-pelvic disproportion, it is essential to inquire into the cause of the dystocia. When complicated with dystocia, we observe a dystocia syndrome of three cardinal conditions, namely, prolonged cervical dilatation, delayed descent, and arrested or prolonged internal anterior rotation of the fetal head. I intend to demonstrate that this syndrome is primarily due to a disturbance of the physiology of the uterus. Another important complicating condition in the vertex presentation is deflexion of the fetal head, diagnosed during the last month of pregnancy or early in labor, by palpation or roentgenogram, which corrects itself spontaneously during pregnancy or labor, and is fol-

lowed by normal occipital delivery. These temporary deflexion attitudes are in the main due to a temporary uterine dysfunction, but must be carefully watched because they may further deflex into a brow or chin presentation when art must intervene early in the second stage of labor. Functional dystocia, also, complicates occiput anterior positions. Therefore, functional dystocia is a first stage dystocia, and bears no relation to the bony pelvis.

The Mechanical Dystocia forms a definite group in which the cephalo-pelvic relation is disturbed on mechanical grounds, so that if the uterine physiology is normal the mechanical factor will interfere with the normal mechanism of labor. When a labor is complicated by contracted or deformed pelvis, pelvic neoplasm, prolapsed extremities, malpositions, malpresentations, fetal malformations or neoplasms, or an oversized fetal head the management is one of cephalo-pelvic disproportion. Another small group manifests a mechanical obstacle to the egress of the ovoid from the uterus which is due to pathologic changes of the cervix uteri, i.e., stenosis of the cervix. This condition, if not diagnosed or suspected either during pregnancy or early during the second stage of labor, may lead to rupture of the uterus, severe laceration of the cervix with hemorrhage, or annular amputation of the cervix. (2) This dystocia may be complicated by uterine dysfunction.

The first requisite in the management of a pregnant woman concerning her labor consists of the diagnosis which is divided into two stages, prenatal diagnosis and the diagnosis in labor.

The Prenatal Diagnosis is that supervision between the thirty-sixth and fortieth week of pregnancy. Pelvimetry is only important insofar as it gives us relative information as to the size of the bony pelvis. It does not tell us that the fetal head is oversized, deflexed, or asynclitic, therefore, we must not be lulled into a sense of security of normal cephalo-pelvic relation because the pelvic measurements are normal.

At the thirty-sixth week we can determine by rectal examination the station of the fetal head. If the fetal head is in the pelvic cavity, one can feel assured that the "phenomenon of lightening" has occurred, and in the majority of cases the pelvic relation is and will be adequate when the labor sets in. Occasionally the fetal head will rise out of the pelvic cavity by either becoming oversized or as a result of a

complicating hydramnios. If the station of the fetal head is high or floating, one must determine whether it is due to a functional or to a mechanical factor. The differential diagnosis between the two is made by the impression method of Muller-Pinard, Monroe Kerr, or Hillis. If the head is impressed into the pelvic excavation, one diagnoses the cause as being due to a delay in the "phenomenon of lightening." If the fetal head is not impressable one diagnoses the condition as a disproportion of either an absolute or a relative or border-line cephalo-pelvic disproportion. By weekly examinations we make the diagnosis, so that when the patient goes into labor, the conditions present will determine the indication for the given patient. Irrespective of the conditions present from the thirty-sixth to the fortieth week of pregnancy, one cannot prognosticate whether the uterine physiology will proceed in a normal or abnormal way in the oncoming labor.

DIAGNOSIS EARLY IN LABOR: The patient should be examined as soon as possible after the onset of labor in order to determine whether uterine dysfunction has complicated the presentation. When the head is low in the pelvic cavity a partial deflexion attitude is of no importance because it is due to uterine activity or the fetal postural mechanism which in itself will not be a cause of dystocia. When the fetal head is high, we must be on our guard because it may deflex into a brow or chin posterior presentation and asynclitism which condition may be of serious import for the safety of the mother and the child, if not diagnosed in time.

A floating or high head does not signify a disproportion because in many cases it is due to a delay in the "phenomenon of lightening." If there is any doubt in regard to the etiologic factor of the station of the head then the impression method should be employed under an anaesthetic. A delay in the relaxation of the lower uterine segment is practically a temporary condition, so by intelligent expectancy this factor will right itself under conservative management.

The diagnosis of the physiology of the uterus or the clinical course of the labor is governed by the progress of cervical dilatation. The physiologic changes of the uterus are determined by the cervical changes which serve as the "barometer" of the physiologic motor activity of the uterus. When cervical dilatation progresses in a normal manner, one can prognosticate the approximate duration of the labor,

since the "barometer" informs us that we are having true uterine contractions. These contractions result in thickening of the upper uterine segment while the lower uterine segment is thinning and the retraction ring is rising. This knowledge is corroborated by a study of frozen sections in the various periods of the first and second stages of labor, and by the living physiologic changes observed during the performance of Caesarean sections.

To recapitulate the diagnosis of a given case requires that the following conditions be noted: (1) cephalo-pelvic relation, (2) station of the fetal head, (3) synclitism or asynclitism, (4) the nature of the uterine contractions, true or false. These conditions being known the clinical course will determine the given indication for the safety of the mother and child.

The management of the vertex presentation dystocia will be discussed under the etiologic division of the mechanical and functional.

THE MECHANICAL DYSTOCIA: This is a condition in which there is a cephalo-pelvic disproportion which may be divided into an absolute and a relative or border-line disproportion. I am avoiding discussing the value of pelvimetry because of many factors that come into play to make the measurements useless. I am convinced that the impression method is the safest method of diagnosing and evaluating disproportion. The absolute cephalo-pelvic disproportion should be diagnosed during the prenatal supervision. It constitutes a definite indication for an elective Caesarean section to be performed at term before or very soon after the onset of labor.

THE RELATIVE OR BORDER-LINE CEPHALO-PELVIC DISPROPORTION: This is the criterion of our obstetric knowledge and diagnostic skill. The diagnosis should be made before the patient goes into labor in order to suspect a potential disproportion and so to be prepared for whatever indication will present itself. The problem is, will the fetal head mould sufficiently to pass through the pelvic cavity? The condition is a relative disproportion and the indication resolves itself into the question of abdominal or vaginal delivery. It is this type of case in which the diagnosis must be made with great care because upon the indication decided upon will depend the welfare of the mother and the child. I rely on the impression method for the indication for delivery, if necessary under an anaesthesia. During the prenatal supervision when a diagnosis is made of a border-

line disproportion, the indication may be induction of labor before term, Caesarean section, or a test of labor.

The induction of labor will be decided upon between the thirty-sixth and fortieth week of pregnancy. This method has proven itself of distinct value to me, but we must consider the premature child, infection, and occasionally the difficulty in inducing labor.

Caesarean section is a definite indication when the diagnosis is made and we feel that the section is the safest indication for that particular case. In this type of disproportion the section should be done under the same condition as in an absolute cephalo-pelvic disproportion.

If the vaginal route is elected then in the majority of cases the abdominal route is closed, and the parturient is given a test of labor of the anatomico-physiologic school, which may be terminated by spontaneous delivery, forceps, pubiotomy, Caesarean section, or craniotomy; and occasionally by either a Porro or Portes Caesarean section. When the vaginal route is elected then we give the patient the test of labor, and the test of labor that I suggest is the anatomico-physiologic school which is complete cervical dilatation, rupture of the membranes, and at least two hours of second stage true uterine contractions. This type of test of labor is governed by a knowledge of the anatomy of the maternal pelvis and fetus, the physiology of the uterus and fetus, and clinical experience. In order to carry out this test of labor, it is essential to be on guard for any complication that may arise in the course of labor.

A brief consideration of the anatomico-physiologic test of labor will not be amiss in order to demonstrate the ability of nature. In a border-line cephalo-pelvic disproportion nature attempts to overcome the disproportion by the head entering the superior strait in the transverse diameter in contracted pelvis, and in the oblique diameter in cases of generally contracted pelvis. Now, moulding is a second stage process, because it depends upon the movement of descent. The fetus during the first stage of labor is stationary, that is after the final phase of the relaxation of the lower uterine segment or the "phenomenon of lightening," on account of the resistance that the presenting part meets from the lower pole of the uterus. The second stage begins when the presenting part meets with no resistance from the lower pole of the uterus, and the continued true uterine contractions bring about a decrease in the uter-

ine cavity which forces the fetus downward and constitutes the mechanism of the movement of descent. With the movement of descent the fetal head meets the resistance of the pelvic cavity, so that moulding may be considered as a movement in cases of disproportion in order to accommodate the fetal head to the pelvic cavity. It is readily understood that in order to diagnose a border-line case that we must allow the proper mechanical phase of nature to assist us in the indication we have decided upon through the aid of the physiologic function of the uterus.

If we elect the vaginal route for delivery, we must during the course of the test of labor diagnose certain complicating conditions that may present themselves and be ready to act promptly. The test of labor implies a true second stage labor, but in a relative cephalo-pelvic disproportion it is imperative to recognize the fact that the first and, even, the second stage of labor, may be complicated by uterine dysfunction or the so-called inertia uteri which is accountable for the prolonged labor. Therefore, it is most important to realize that, if the labor is complicated by uterine dysfunction it is the dysfunction that is the cause of the prolonged labor and not the element of disproportion, which condition frequently complicates occiput anterior positions. If a relative cephalo-pelvic disproportion is complicated by uterine dysfunction this complication is managed as I will discuss under the functional dystocia.

Now, during the course of a test of labor the uterine force may complicate the presentation by asynclitism, or a normal flexed head may be misdirected onto some part of the pelvic inlet which may cause pressure necrosis on some part of the lower uterine segment followed by rupture of the uterus. This complication may take place during the first and second stage of labor for which we must be on our guard for the indication.

THE FUNCTIONAL DYSTOCIA: This is, in my opinion, the most important problem before the medical profession today. The White House Conference on Child Welfare and the committees appointed by various medical societies throughout our country are studying the problem of the high maternal mortality. From the cry of Semmelweis of sepsis as the cause of obstetric mortality, we find that puerperal sepsis is still the greatest factor of maternal obstetrical deaths. It is well known that operative interference has greatly increased, and it is, also, an

accepted criterion that operative interference increases the morbidity, so that we can easily speculate that since the morbidity has increased, we must have an increased maternal mortality due to sepsis at this stage of the progress in obstetrics.

The first essential consideration is our understanding of functional dystocia. This condition is due to a disturbance of the normal physiologic aspect of the mechanism of labor when the cephalo-pelvic relation is normal. Functional dystocia is characterized by a dystocia syndrome which in the main consists of: (1) Prolonged cervical dilatation. (2) Delayed descent. (3) Arrested or prolonged internal anterior rotation of the fetal head. These criteria are due to a disturbance of the uterine physiology and I will discuss them briefly.

PROLONGED CERVICAL DILATATION: The first essential fact that I wish to emphasize is that cervical dilatation per se is not a local manifestation, but is a part of the physiologic changes of the uterus as a whole. Rudolph and Ivy¹ have designated the cervix as the "barometer" of the physiologic motor activity of the uterus. The progressive changes of the uterus are due to true uterine contractions which bring about certain definite anatomico-physiologic changes such as, retraction or permanent thickening of the upper uterine segment, thinning or stretching of the lower uterine segment, rising of the retraction ring, relaxation of the circular muscle fibers of the lower pole of the uterus leading to cervical dilatation and the movements leading to the expulsion of the fetus.

The problem in arrested or prolonged cervical dilatation is the disturbance of the physiology of the uterus. I have described the physiology of uterine contractions. Clinical experience demonstrates that when the cervical dilatation is arrested or prolonged that the parturient manifests uterine contractions, but no progress in cervical dilatation. Since uterine contractions are present, but no progress takes place in cervical dilatation, we must accept the premise that in the physiology of a uterine contraction the retraction and thinning phase of the upper and lower uterine segments are absent which is designated as false uterine contractions. By the use of the term false or true uterine contractions, we derive greater information as to the underlying uterine changes manifested by the "barometer," the cervix. The term "labor pain" is no index of the underlying

changes of the uterus, because a labor pain is a subjective manifestation of a contraction of the uterus, and the subjective response of a patient to a labor pain depends upon the emotional state and the degree of sensitivity of the pain nerve endings in the uterus which may vary in different patients and in the same patient from time to time. The designation of a uterine contraction as "weak" or "strong" is neither of clinical nor physiologic value. It is well known that cervical dilatation can occur with very slight uterine contractions, while strong uterine contractions may show no progressive cervical dilatation with the result that the labor is prolonged. Therefore, labor in a vertex presentation dystocia is prolonged on account of the disturbance of the physiology of the uterine contractions and up to this time we have no drugs or procedure to hasten cervical dilatation, except by intelligent expectancy in preventing maternal exhaustion.

The vertex presentation consists of the occiput anterior, occiput posterior, occiput transverse, brow, and occipito-sacral positions. These positions during the prenatal supervision may be normal vertex mechanism in the oncoming labor, but we cannot prognosticate whether these positions when high or low in the pelvic cavity will or will not be complicated by uterine dysfunction. We do know from clinical experience that normal occiput anterior positions diagnosed by palpation and roentgenogram, high or low, are frequently complicated by dystocia. The so-called persistent occiput posterior position has been dignified as a distinct entity to which I do not subscribe. We know that the majority of our occiput posterior positions descend into the pelvic cavity and rotate into an occiput anterior position for normal delivery. Again, we know from clinical experience that occiput anterior positions may be complicated by dystocia. The occiput transverse position may be a primary position or the result of rotation from an occiput posterior position complicated by an arrest in the transverse diameter and dystocia. These vertex presentations with dystocia are complicated by the dystocia syndrome.

This dystocia syndrome is the bugbear of our obstetric experience and it is of fundamental consideration because if we could control or regulate them we could with art assist the parturient to safety. The first evidence of this dystocia is the arrested or prolonged cervical dilatation which is due to uterine dysfunction. We

know that even with the use of dilating bags, we have many failures. In many cases a large dilating bag is expelled and the cervix contracts down to its original dilatation or with the bag in situ no uterine activity results. The use of the dilating bags is to bring about labor by a reflex mechanism that initiates true labor, but if the dilating bag brings about only mechanical dilatation of the cervix without physiologic changes of the uterus then the dilating bags have been useless and we have increased the risk of sepsis on account of intrauterine manipulations. The second condition is failure of the movement of descent which is frequently present in functional dystocia. During the first stage of labor a high head is due to a delayed "phenomenon of lightening" and if the second stage is complicated by uterine dysfunction, failure of descent is due to false uterine contractions and the delayed "phenomenon of lightening." The third condition is an arrested or delayed internal anterior rotation of the fetal head. This movement is a controversial one, but Rudolph and Ivy¹ on the basis of comparative obstetrics have expressed the opinion that the uterus is the active basis of the rotation. I am convinced of this mechanism from clinical observation because I have frequently observed the fetal head rotate from a posterior position to an anterior position while the fetal head was in utero and did not come in relation to the pelvic floor, inclined planes, or ischial spines, so that I am convinced that the pelvic cavity is not an aid to the natural phenomena of labor that holds good in the mechanism of rotation in the lower animals. Since the uterus is the cause, I believe that any disturbance of the uterine physiology is the responsible factor for the arrested or delayed internal anterior rotation of the fetal head and not the mechanical theorem of the mechanical phase of the pelvic cavity.

I have avoided emphasizing the deflexion attitudes as a cause that may be found with dystocia of the vertex presentation because I am convinced that the degree of deflexion of the fetal head, except a brow presentation, does not play any role in the dystocia, but is the result of the dystocia. If a vertex presentation is complicated by a partial deflexion attitude it is due either to the fetal postural mechanism or to uterine dysfunction as the underlying factor. Now, in a dystocia the partial deflexion plays no role in the prolongation of the first stage of labor because it is of secondary consideration in the dystocia syndrome and in the majority of

cases the partial deflexion attitude will correct itself when the uterine physiology has returned to normal function. This condition of partial deflexion is best demonstrated in the clinical course of the so-called persistent occiput posterior position of the functional dystocia when complicated with a deflexion attitude. Now, in the persistent occiput posterior the dystocia is primarily due to uterine dysfunction and a review of the literature appears to be that a persistent occiput posterior must be associated with a deflexion attitude. This does not agree with my experience, because I have found just as many cases of flexion as deflexion attitudes in the persistent occiput posterior and they will correct themselves when the uterine physiology begins to function normally. If the deflexion attitude per se was an important complicating condition in persistent occiput posterior then cases of impaction should take place in the narrow pelvic plane of Hodge with rupture of uterus if mismanaged. I have never met with a case of ruptured uterus in this type and I have reviewed the literature and have failed to find a report of a spontaneous rupture of the uterus in the functional dystocia type. Please note that I differentiate between a brow position and presentation. A brow position is a temporary deflexion attitude diagnosed during the prenatal supervision which corrects itself during pregnancy or spontaneously during labor, but when diagnosed must be carefully watched for fear that the position may become a presentation. A brow presentation is a permanent deflexion attitude and if not properly managed very early in the second stage of labor will result in impaction which may prove to be of serious consequence to mother and child. If a brow presents itself, we should manage it at the onset of the second stage of labor by a manual correction and then leave it to nature, or to perform a version and extraction if the brow will not remain in flexion.

I have discussed the clinico-physiologic aspect of the mechanism of the vertex presentation, because I am firmly convinced that the diagnosis and management of a complicating dystocia depends upon our understanding of the basic principles. Dystocia means prolonged first stage labor, but hasty operative interference gives rise to complications and to morbidity and mortality of the mother and the child. The Caesarean section has not increased the proficiency of our art when the maternal mortality ranges from two to twenty-five per

cent and higher; and the fetal mortality from four to thirty per cent. It appears that the reason for this operative furor is two-fold; too much surgical aptitude of the profession in a physiologic process which by natural laws should be delivered per vaginam by art as the highest compliment to the knowledge and skill of the accoucheur; and the fact that we have tried to standardize a physiologic process by so many hours of labor because the majority of labor cases terminate under twenty-four hours. The parturient should be rather managed according to the clinical course of the labor, and interference instituted only after careful consideration of the diagnosis.

THE CLINICAL MANAGEMENT OF THE DYSTOCIA OF THE VERTEX PRESENTATION: The main condition of the functional dystocia is prolonged labor primarily caused by false uterine contractions. The dystocia syndrome is the clinical manifestation of disturbed uterine physiology. Calkins³ has pointed out that such clinical factors as age, height and weight, length of the conjugata vera, size of the child, and the duration of the pregnancy have little or nothing to do with the length of labor, particularly of the length of the first stage which opinion I fully endorse. If we accept Calkins' observations, we must accept the premise that the first stage of labor is prolonged on account of uterine dysfunction. We know very little as to how to shorten the first stage of labor, therefore, the management of a prolonged first stage labor is purely empirical. Clinical experience teaches us that we should treat the parturient with intelligent expectancy during the first and the second stage of labor.

THE FIRST STAGE OF LABOR: The first consideration in the management of the parturient after the diagnosis has been made, is the prevention of maternal exhaustion. A prolonged first stage labor is due to uterine dysfunction for which we do not know the cause or causes, nor do we know any specific therapy by means of which we can convert the dysfunction into normal function. Therefore, all treatment directed toward correction of the uterine dysfunction is empirical in that we support the parturient until the dysfunction corrects itself.

Since maternal exhaustion is the cardinal consideration in prolonged labor the author will discuss this subject. Exhaustion per se does not begin after the onset of labor. Clinical experience, however, has demonstrated that before the onset of labor measured either in hours

or days, the parturient may have what the older clinicians called the prodromata of labor in which anorexia is particularly present. The parturient is mentally disturbed, does not partake of her usual quantity of food and water and does not sleep. Therefore, I consider every parturient as being potentially exhausted. If such a patient goes into labor and has a normal or an operative delivery in the usual time, she will not manifest any clinical evidence of exhaustion. But, if after the onset of labor the first stage is complicated by dystocia, the parturient will soon refuse food and water, and will lose sleep on account of the uterine contractions and exhaustion will set in.

Exhaustion is brought about by psychical and physical factors. If the patient is properly prepared psychically for the ordeal of labor during the prenatal period; and if during labor she is properly encouraged by moral support, the psychic factor of exhaustion will not be present. The physical factor consists of innation, dehydration, and loss of sleep or rest. Therefore, our object in the prevention of exhaustion is to see that the parturient receives sufficient food, water, and rest for each twenty-four hours of her labor. The author is firmly convinced that exhaustion is most often due to improper management of the parturient, and that it may be a predisposing factor in sepsis of a prolonged labor.

The author's treatment of exhaustion is as follows: At the end of eighteen hours the condition of the cervix "barometer" and the atypical uterine contractions make it possible to diagnose the possibility of a beginning prolonged first stage labor. The patient is placed on a medical exhaustion regime. The urine is tested for acetonuria to gauge the state of exhaustion and repeated every twelve hours throughout the labor. The daily diet consists of either a liquid or soft diet amounting to 3000 calories of food and 2500 cc. of water and is given to the patient in frequent feedings every three or four hours. Each feeding is supervised by a nurse who encourages the patient and sees that the parturient eats all that is given her. She is given rest by sedation, and the periods of rest in each twenty-four hours are gauged by her condition. If the parturient is managed by this prophylactic exhaustion therapy she is brought in the majority of cases to the second stage of labor in good physical condition at which time art can intervene, if necessary, with the least amount of injury to mother and child.

The first stage of labor should be managed by intelligent expectancy until a definite indication arises for operative interference. If the labor appears to be unduly prolonged on account of a preconceived standard of time the use of the dilating bag to hasten cervical dilatation may be disappointing in that dilatation of the cervix does not occur, or the bag is removed and repeatedly introduced until the second stage is reached. The bag may cause prolapse of the cord on account of the displacement of the head. The bagging predisposes to a greater incidence of sepsis. The more experience we have with the dilating bags the more do we fear its use on account of the uncertainty of its action. At the Cook County Hospital a multiparous parturient was repeatedly bagged until we had to resort to Caesarean section. I prefer sedation, i.e. morphine, morphine and magnesium sulphate, morphine and scopolamine, and the barbiturates before the use of the bag in cervical dystocia. The frequency of Caesarean section in recent years has greatly increased, so that we may speculate that possibly some have been performed for functional dystocia. Grandin⁴ and Reynolds⁵ wrote that the indication in the main for Caesarean section should be primary operation. The more experience we have with Caesarean sections the more do we realize that it is a primary operation, because the length of the labor, particularly when the membranes have ruptured early, increases the morbidity and mortality of the mother. If we review our own experience and a study of the literature on the morbidity and mortality, it is a question whether we are improving our results by Caesarean section in the cases of functional dystocia. But, in selected cases conditions may arise in which Caesarean section must be performed.

Conditions may arise for delivery with cervical dilatation of eight cm. when the cervical dilatation is completed by Dührssen's incisions followed by forceps. A great deal of difficulty may be encountered with Dührssen's incisions, because these incisions bring about a mechanical cervical dilatation when the lower pole of the uterus is not physiologically prepared for the mechanism of expulsion, and we may encounter difficult forceps delivery or failed forceps on account of the resistance from the lower pole of the uterus or constriction rings, shock, and extension of the incisions into the lower uterine segment with severe hemorrhage and sometimes fatal results.

I will discuss briefly the manual correction

of deflexion attitudes in the vertex presentations, leaving out the brow and chin presentation because these deflexion attitudes are of a different physiological etiology. The deflexion attitudes in the positions of the vertex presentation do not necessitate manual correction because the deflexion attitude will right itself if treated with intelligent expectancy.

SECOND STAGE INTERFERENCE: When the parturient is in the second stage of labor for two hours we can aid her by our art because the uterovaginal canal is formed and is prepared for the stage of physiological expulsion. Uterine dysfunction may complicate the second stage of labor, so that this condition must be diagnosed before hasty operative interference is instituted.

If the bag of water is intact, we should rupture it artificially when the second stage is reached for it is of no more value as an aid in cervical dilatation and frequently increases the expulsive powers of the second stage of labor.

Forceps can be applied, with good results to mother and child. If the persistent occiput posterior position has made no progress, we are justified in operative interference. If the fetal head is low or in the mid-plane either a manual correction of the head to an anterior position and forceps or a Scanzone forceps operation aided by an internal or external rotation of the fetal body to an anterior position.

Version and extraction is frequently indicated when the fetal head is floating or high in a normal cephalo-pelvic relation which is due to a delay in the "phenomenon of lightening."

The management of functional dystocia by the above brief exposition will, in my opinion, be safer for the mother and the child in the hands of the general profession.

CONCLUSIONS

1. Dystocia of the vertex presentation is due to a disturbance of the physiology of labor.
2. The management is dependent upon the diagnosis of functional or mechanical dystocia.
3. The functional dystocia is characterized by a prolonged first stage labor.
4. Prevention of maternal exhaustion is of prime importance in the management of a prolonged first stage labor.
5. Conservative treatment for the first, and two hours in the second stage of labor, before operative interference is instituted, will give the best results for the general profession.
6. The Caesarean section operation during a prolonged first stage labor carries a high fetal and maternal morbidity and mortality.

PRESIDENT'S PAGE

ETHICS

To the Members of the Kansas Medical Society:

The dictionary defines ethics as: "The basic principle of all right action; the science of human duty." So far as we can discover, the American Medical Association, organized in 1847, was the first large body to adopt a formal, written code of ethics, traditional usage having formerly prevailed. The code of the American Medical Association was that of Percival with a few alterations.

Thomas Percival was an Englishman, and the nephew of a physician who dying, left his library and a bequest of money to Thomas. Thus stimulated to the study of medicine, he first took an academic course and then entered the University of Leyden, from which he received his degree at the age of twenty-five.

An essay on medicine won him recognition and reward in his appointment as physician to the Manchester Infirmary. His code of medical ethics formulated in 1817 was largely to assure smooth professional service at the Infirmary, and also as a guide to his son who was just beginning the study of medicine. It was written in the peculiar style and spelling of that day, but it contains so much of good for the profession everywhere that it has been the model for all codes that have appeared since it was published, three years after Percival's death.

The American Medical Association refused to abandon the phraseology of Percival's Code until 1912, and it is these rules that the body of medical men regard as strict professional propriety in their relation to the public and to each other.

The Oath of Hippocrates was the system of ethics for the profession prior to the year 1617. This famous oath, with which you are all familiar, represents sort of an agreement between physician and student, and it is supposed that ethical responsibility was imposed upon the student at the very beginning of his apprenticeship to an established doctor.

Hippocrates said a physician should be "an upright man instructed in the art of healing. He should also be modest, sober, patient, prompt to do his whole duty without anxiety, conducting himself with propriety in his pro-

fession and in all the acts of his life."—just simply stated, it means that a doctor should be a gentleman.

The medical profession is not the only one now to have a code of ethics. The lawyers have one, as do dentists and pharmacists; while outside of professional lines, we find that printers, architects, confectioners and other trades have adopted written codes. Any number of classification clubs, such as Rotarians, Kiwanians, Lions and Optimists have their code of ethics.

However, there is a difference between the ethics of business and the ethics of the profession. There is no specific code of ethics that business has attained resting on considerations broader than self-interest. It is otherwise with the professions. The peculiar significance of the medical code is that it prescribes the duties of a group to those outside the group. The practice of medicine is a profession whose prime object is the service it can render humanity, and the principles are primarily for the good of the public.

In its opportunities for doing good, relieving suffering and aiding in the uplift of the race, the medical profession ranks first, unless we except the ministry. Doing our duty as a profession calls for that which is noblest and best in all of us. "Service above self" has ever been the motto of the profession, ages and ages before there was even in existence such an organization as the Rotary Club which claims this slogan.

An individual who chooses the practice of medicine as his profession, takes upon himself an obligation to carry on according to the ethics of his chosen profession. Medical ethics as formulated by the American Medical Association is the pattern by which we govern our conduct toward our patients, our colleagues and the public.

Patience, delicacy, honesty and secrecy are four necessary requisites of a physician in dealing with his patients. Whatever a doctor may learn in confidence from his patients he should hold as a trust and as something not to be revealed unless required to do so by the statutes of the state.

The welfare of the patients should be our first consideration and we should give them the best we have. We should treat them as we ourselves would wish to be treated were our positions reversed. They should be given a careful and complete physical examination, and reports in each case recorded and filed. In justice

to ourselves and to our patients we should keep a full and accurate record of every case, no matter how unimportant it may seem at the time of examination.

And just as important as our conduct to our patients is our conduct toward our colleagues. Adverse criticism is unkind at any time, and when directed toward a colleague it is not only unkind, but also wholly opposed to the highest ideals of the profession.

In a case, for instance, where one physician follows another in the treatment of a patient, unfavorable comment should never be made by the successor. Naturally, when a physician is dismissed it is because of dissatisfaction, and be the cause real or imaginary, one is sure to hear prejudiced statements and remarks concerning the doctor dismissed.

Do not criticize the diagnosis or the treatment of your colleagues. There may be an occasional case of mistaken diagnosis, and you or I may make one, because no man, physician or layman, is wholly infallible, so it behooves us to be as charitable toward this brother as we would wish him to be toward us if the case were reversed. The public is very quick to catch the least sneer or insinuation directed by one doctor toward the ability or integrity of another.

The secret division of fees is contrary to the "Principles of Medical Ethics" which declares: "It is detrimental to the public good and degrading to the profession, and therefore unprofessional to give or receive a commission or divide a fee for medical advice or surgical treatment unless the patient or his next friend is fully informed of the transaction."

This should be a law unto the profession, but unfortunately it is disregarded by some doctors, thereby putting the entire profession into disrepute. It is absolutely right that a proper fee should be paid to the attending physician for service rendered in determining the medical or surgical treatment, and the patient should realize this. But when a physician takes a patient to a surgeon or internist, holds a consultation, spends his time and gives valuable information, he should present his bill to the patient and not to the surgeon or internist. These bills should be presented separately and by this procedure the patient will be impressed with the services of each, and he will realize and appreciate the fact that he has had a square

deal, and will have greater confidence in the medical profession and more faith in his family physician.

So many of the older practitioners seem to forget the precepts of their school days, and in their attitude and treatment of each other they resort to extremely unethical conduct which not only presents a rather unpleasing picture to the layman, but is a pernicious example to the young graduate locating in their midst.

The young doctor is frequently looked upon with distrust mixed, perhaps, with some envy and jealousy, and he is treated as an interloper. He is not invited to join the medical society, and occasionally is rejected if he applies for membership. He just is not thought to know very much about medicine for all of the education he has had.

But he should, by all that is just and right, be cordially received into the professional circle and perhaps he may teach us something of the theory of modern medicine, possessing as he does, an education and training that many an older man did not acquire in his student days. And while he is teaching us the theory of medicine we may be able to teach him something of its practical application as learned by us in the experiences of years of service.

These young men should have our encouragement and consideration in building their careers. They are but standing where we stood when we began the practice of medicine, and most of us remember with pleasure and gratitude all friendly gestures made at that time by an older member of the profession. If we are to maintain the high standards of the profession we must have these young graduates for they are the ones who will carry on when we have passed to our final reward. We have but blazed the trail, and they will attain greater heights than any of which we have ever dreamed.

This subject of ethics is broad and deep, and much more could be said, did not space prevent further remarks.

In conclusion, I repeat what the greatest teacher and physician of all times said: "Therefore, all things whatsoever ye would that men should do to you, do you even so to them." Simply the Golden Rule that can be applied to all walks of life, social, business and professional. If we follow this precept, we shall then stand right, do right and be right.

J. F. Hassig, M.D., President.

EDITORIAL

CANCER OF THE BREAST

Willy Meyer and Halstead, working independently in 1888 established the present conception of the problem of cancer of the breast and set forth the fundamental principles of its treatment. Since that time the disease has been preeminently a surgical problem.

The Cancer is Curable symposiums of the American College of Surgeons on each year's program has produced many interesting reports of individual work. The collective study now under way by the Cancer Committee of the College of Surgeons will, it is hoped, serve to establish standards of evaluation of methods in the treatment of various types of cancer where heretofore each surgeon has been guided by his individual impressions and interpretations of his own more or less limited experience.

Due to the publicity given to the subject of cancer of the breast in recent years many patients are seeking advice concerning breast tumors and the number of benign tumors observed in relation to malignancy has greatly increased.

The correct differentiation of benign and malignant tumors depends upon the judgment of the surgeon and the tissue examination. The frozen section made while the surgeon waits at the operation table may be sufficient to establish a diagnosis when the clinical appearance is in agreement, but absolute dependence should not be placed on snap shot judgment of a hastily examined frozen section.

As an example of the movement in the treatment of cancer of the breast the work of Trout may be taken as an expression of the trend in surgical thought during the past twenty-five years. In his study of 412 cases of carcinoma of the breast operated by the Halstead type of radical surgery, in the early part of this series, there were twenty-two per cent cures of five years and over in those not subjected to any kind of radiation. In a part of the

series where radium was placed under the skin of the axilla in the line of the internal mammary vessels at operation the percentage of such cures was raised to thirty. In the latter part of his series where post-operative radiation was used by means of a machine capable of 250,000 volts, in addition to the radium employed at the time of the operation, the resulting cures of five years and over was raised to fifty-five per cent.

Trout states that in the last ninety-four cases operated the preoperative employment of heavy radiation gives promise of still farther improvement in the percentage of cures. Some inoperable cases have been converted into operable ones by the use of radiation. Two such cases are mentioned which have remained free from carcinoma for over five years. Trout believes that the clinical index of Lee and Stubenbord is of distinct prognostic aid.

In a recent contribution Harrington, of the Mayo Clinic admits that surgical treatment may be influenced by the use of x-ray, the effect of which depends upon the degree of malignancy. He concludes that in his experience roentgen therapy has been of no significant aid as routine treatment and should be used only when the malignancy is of high degree.

Greenough, in a recent review of the work done in cancer of the breast at Massachusetts General Hospital since 1894, agrees in his conclusions with Harrington, in that the degree of malignancy of the primary tumor is of significance in prognosis, that the use of preliminary or post-operative radiation had practically no effect on the mortality and that early and radical surgery is the most effective treatment.

Contrasted with this note of pessimism is the opinion of A. C. Scott, Jr., whose experience leads him to believe that ninety-five per cent of patients with cancer of the breast are curable. The statement is based upon fifteen years experience in the treatment of 3,167 patients with various types of cancer and an intensive follow up study of 236 breast cancer cases treated by the hot knife surgical removal.

Scott, who has had a large experience in the

use of the hot knife, considers the conditions necessary for a high percentage of cures are treatment while the tumor is limited within the breast and complete removal by the hot knife.

The use of heat in the treatment of cancer has long been recognized. James F. Percy, with consummate skill employing massive heat in the treatment of advanced cancer, has demonstrated the value of sealing the lymphatics with heat as a factor in the technique of the cautery operation.

The majority of surgeons now employing heat in operative technique use the radio-knife and claim for it an added ten to twenty per cent in cures over the cold method.

If sealing of the lymphatics, rendering the cancer in the breast a closed vessel and at the same time inhibiting the growth of cancer cells can be accomplished, then the advocates for the intensive pre-operative radiation have a proposition worthy of a hearing.

The curability of cancer depends upon the time after the onset that the patient seeks treatment, the degree of malignancy and the methods employed in treatment.

Certainly the percentage of cures of cancer of the breast has not reached a point where surgeons can rest in satisfaction with operative technique; nor can they regard with a closed mind other agencies that offer improved technique.

Every surgeon should inform himself of the work of the Cancer Committee of the American College of Surgeons in its effort toward a collective, cumulative study and evaluation of methods of treatment.

R. B. S.

ALYCE JANE

Drama — emotion — hysteria — surgery — sensationalism — ethics — all summed up in the name Alyce Jane: just another case of diaphragmatic hernia, but so publicized that every man, woman and child in the nation breathes free, now that the unwitting star of the drama is on the road to recovery. A surgeon on the

high seas; a radiogram; a little girl rushed half-way across the continent; a hospital all agog with anticipation; an operating room filled with spectators; a greying surgeon deftly at work; a mother filled with anxiety and hope; a small white bed with a childish patient, making the grade! Sure, it's drama, and how the great American public does love its drama. But is such high-pressure publicity—columns and columns of it—good for the medical profession?

We take the viewpoint that it is not. In the first place it hurts the individual doctor publicized. These stories are seldom accurate since they rarely emanate from the attending physician. The regular medical man is bound by an ancient and honorable code of ethics which prohibits his "furnishing or inspiring newspaper or magazine comments concerning cases in which the physician has been or is concerned. All other like self-laudation defy the traditions and lower the tone of any profession, and so are intolerable." We do not accuse the surgeon in this case of conniving at all his fanfare in the public prints: on the contrary, his whole record and reputation is so clean that this unwanted publicity must be particularly embarrassing to him, and we doubt not he has made earnest efforts to soft-pedal the whole thing. Yet the fact remains that his photograph (many years old) has been published far and wide, and his name is now an American byword. In the jaundiced eyes of some physicians, he could and should have, early, put an end to bulletins and other information, and in the eyes of these physicians he has been hurt. How unfair this is, for the whirlwind began when he was still on vacation, and it has been our observation that once the press begins to whoop it up, nothing can stop the whoopee till the sensation has burned itself out.

In the second place, this variety of sensationalism hurts the surgeons at large. In the future, cases of this disease may have a tendency to gravitate towards this clinic, now so well known, passing by other clinics in other cities

near to home or actually at home, where can be found other surgeons perfectly competent to operate successfully for this condition. No one clinic or clinician has a monopoly on knowledge, judgment or skill, or claims to have. To say nothing of added expense and inconvenience, such a gravitation would discount the reputation and ability of other able surgeons; in effect, this publicity, even though unintended, would then amount to unfair competition.

Third, this type of publicity hurts the medical fraternity at large. The public rightly expects a learned profession to conduct its affairs with modesty and dignity, and above all in the case of medicine, with privacy. This same public will give scant thought to the fact that usually such campaigns originate with the laity—the patient's family or friends—who may welcome the opportunity to strut in the limelight or bask in the reflected glory of some famous professional. Yet a certain percentage of this same public will feel that the learned profession of medicine has participated in a ballyhoo, and thereby has lost caste.

On the other hand, efforts to thwart legitimate publicity may be carried to an extreme. On the very day that the above-mentioned case was operated on, a similar operation was successfully performed in a small town in another state. In this case the surgeon swore the patient, the family, the hospital personnel, and everybody in contact to absolute secrecy; there were no spectators in the operating room; there was no prior publicity; and he admitted later to a gimlet-eyed reporter that he had performed the operation only upon the pledge of said reporter not to divulge his name. We have no idea why he went to such unusual precautions, unless he felt a certain disgust with the previous fanfare and decided there would be none of it at his expense: at any rate, his name was withheld, yet we can see no impropriety in naming the surgeon and then dropping the matter. In an effort to observe not merely the letter but the veritable spirit of medical ethics this particular

surgeon has leaned over backwards in his modesty and meticulousness; we believe he has erroneously deprived himself of a measure of credit that is justly his. This is the other extreme.

As a matter of fact, there is a common sense ground midway between garrulity and taciturnity which any professional man of poise and experience should readily find, and adhere to. This ground keeps in view the essence of ethics on the one hand, and on the other hand recognizes the right of the public to legitimate news. Unusual patients, unusual diseases, or unusual therapeutics are matters of public interest that can be reported modestly and briefly in the lay press without lauding or exploiting any physician, and newspaper editors are evincing a better understanding of the physician's position in such reports. It would be better, of course, if all such items were released through the Public Relations Committee of the County Medical Society to which the physician belongs, but till now this has not always been feasible. When the absolutely unique happens, as in the Dionne quintuplets, nothing could or should interfere with the widest kind of publicity, in which case the poor doctor is the unhappy victim of circumstances, who simply has to stand up and "take it." But the merely unusual item should be handled with some sense of proportion, and the publicity should not subject the physician to criticism from the profession or the public. Let us take our public more into our confidence; let us inform them, through proper channels, more and more of the triumphs of modern medicine—that is the only way to defeat the blatant quacks and cults; but at the same time let us find that common sense middle ground; then there will not be another Alyce Jane.—From the Delaware State Medical Journal, March, 1935.

(Editor's Note: Our March Journal carries an article on diaphragmatic hernia with the report of a case successfully operated by a Wichita surgeon.)

LABORATORY

MASS VACCINATION IN TREATING AND PREVENTING COLDS

W. D. O'LEARY, M.D.

St. Marys, Kansas

J. L. LATTIMORE, M.D.

Topeka, Kansas

The common cold certainly justifies its name of common but it is no common or easy problem to handle. When one has the care of a large institution the matter of treating colds often becomes a pressing need while the prevention of colds becomes a Utopian ideal.

Vaccination for colds has been tried in one form or another for several years with varying success. Stock vaccines have occasionally been successful but the autogenous vaccine has had the most uniform success. The rational in autogenous vaccine therapy seems sound in spite of the lurking spectre of a filtrable virus with enigmatic potentialities to harass us.

Having the care of a college population of 217, the outlook for the winter of 1934-35 seemed rather dark when late in September, almost the beginning of the school year, the number of colds reached epidemic proportions. As the colds spread through the school they increased in virulence so that middle ear and sinus complications became troublesome and dangerous.

From the standpoint of expense and inconvenience autogenous vaccines were hardly feasible. Ten of the most severe cases were cultured and the organisms were found to be the same in each. We thought, then, that a vaccine made from these organisms would at least be specific for the whole school and that we might hope for better results from such specificity. The organisms found were the usual ones, namely streptococcus, staphylococcus, and pneumococcus. By preparing a vaccine from our cultures we seemed to be hitting more directly at the particular strains of these bacteria in our locality.

Enough vaccine was therefore made for the whole group of 217. Two concentrations were made, one to be used as a prevention contained approximately 300 million bacteria to the cubic centimeter, the other contained 175 million per cc. and was to be used in treating the colds. The 300 million concentration was administered in

three graduated doses of two, four, and eight minims. The 175 million concentration was given in four doses of three, five, eight, and ten minims. There was an interval of three days between doses in each type of case.

The immediate results were extremely gratifying. There were six men in the infirmary with colds at the time the inoculations were begun while eighteen more were up and around with rather severe colds. A number of others had colds of a milder character and did not report to the infirmary for treatment. The course of all these colds seemed to be remarkably shortened by the vaccine. Of this, however, nothing can be said absolutely since the subjective element cannot be ruled out and especially since no absolute norm exists in this respect of time. It can be said though with great certainty and objectivity that there were no ear or sinus complications after the vaccines were begun. Further, there were no new cases among those who received the inoculations as a preventive measure, so that those who had at first refused the vaccine later asked for it. Altogether 114 students and faculty members received the inoculations, that is to say about fifty-two per cent of the group. (The student was left free to take or not take the vaccine.)

For two and a half months, that is up to the Christmas holidays, no colds appeared in those vaccinated. At this time, however, a number of men went to Chicago and other large cities to attend conventions. Four of these returned with colds in spite of the inoculations. In all these cases another dose of two minims was given and here again the course seemed shortened. All four of these men had histories of marked susceptibility to colds.

Now (April) five and a half months after beginning the inoculations, we feel certain that they had considerable efficacy. We would hesitate to state just exactly where this efficacy lies. Perhaps it was nothing more than an increased resistance attributable to any non-specific protein. Perhaps we had a favorable year with regard to colds. The evidence in this case, however, appears to be to the contrary, namely a rapidly spreading and increasingly virulent infection very early in the school year. Also a great many men, about thirteen per cent of the whole group, who had been frequent victims of colds in past years went through this year without trouble. In the surrounding territory there was a great deal of flu and colds.

If, on the other hand, we compare the per-

centages of those who contracted colds after the vaccine and those who did not receive vaccine the results do not look so favorable. Here we find that twenty-one per cent of those who did not receive vaccine had colds while fifteen per cent of those who did receive vaccine had colds. It seems justifiable to qualify this latter percentage on the basis of mildness and short duration after an extra dose.

Another interesting point of comparison is this. In the month from September 15 to October 15 twice as many patients were admitted to the infirmary with colds as were admitted for a similar reason in the following five and one-half months.

As already pointed out, our initial hypothesis was that good results should be expected from the fact that we were using a very specific strain in a definitely isolated group. A point in support of this may be drawn from the fact that of the fifteen per cent contracting colds after vaccine forty-one per cent contracted them elsewhere, that is while they were in large cities where contact was established with other strains and other types of organisms.

Our final conclusion then may be stated thus: In any fairly isolated large group, for instance in a large asylum or in a college in the country, inoculations with the specific organisms peculiar to that group should appreciably decrease the morbidity rate and the severity in common colds.

Whether or not such inoculations would help in cases where there is constant exposure to a variety of types of organisms for instance in a group of school children, is difficult to say. It is equally difficult to say whether the same results would have been obtained with vaccine of the ordinary stock variety put up by pharmaceutical houses. We had only one case of this kind for comparison. This man received a stock vaccine, selected on the basis of the predominant organisms in his nose and throat cultures. Two weeks later he contracted a cold and was given our specific vaccine. He has had no colds since. No important conclusions can be drawn from one case. It is mentioned only in passing.

Whether or not the series of more than ordinarily severe colds prevalent in September would have stopped automatically without vaccine is also a matter of conjecture. A causal relation, however, seems to exist between vaccine and cessation of colds, for it has been our experience in past years that the colds pass through the whole community, increasing in

virulence as they go. For this reason so many severe colds at the very beginning of the scholastic year forced us to take a chance on the vaccine with hopes of success. We feel that success above the common place was obtained.

MEDICAL LITERATURE

HYPOTHYROIDISM IN CHRONIC HEART DISEASE

Blumgart and Davis from the Department of Medicine of Harvard have experimented during the last eighteen months on the complete removal of the thyroid gland in seventy-five patients with heart disease. This procedure was employed to decrease the demand on the overburdened heart by means of a lowered metabolic rate of hypothyroidism. This study is a report of the patients studied from the endocrine angle in which they find that the operation is unsuccessful unless every vestige of the normal thyroid is removed. The signs and symptoms of hypothyroidism generally appeared between the first and second months after operation, and rarely, however, until the basal metabolic rate had remained low for weeks or even months. These writers feel justified in their treatment of heart disease by this method and that the small dosage of thyroid which is subsequently given is maintained without difficulty in quantity sufficient only to prevent symptoms of hypothyroidism.

Blumgart, H. L., and Davis, D.: Hypothyroidism Induced by Complete Removal of the Normal Thyroid Gland in the Treatment of Chronic Heart Disease. *Endocrinology* 18:693-700 (Nov.-Dec.) 1934.

BEER IN THE DIABETIC DIET

This report from the Metabolic Unit of the Michael Reese Hospital, Chicago, is a study of the use of beer in the diabetic diet in four cases. It is a careful detailed study and the results show that beer has no effect either harmful or beneficial in the diabetic diet. To the extent that the alcohol contained in the beer may be utilized without forming sugar and without requiring additional insulin beer may offer an advantageous source of extra calories in some cases. The authors believe that it is wise to substitute it for other foodstuffs in the diet as one would do in dealing with any other special article of food.

Strouse, S., Soskin, S. and Vidgoff, B.: Beer in the Diabetic Diet. *Ann. Int. Med.* 8:1028-1032 (March) 1935.

THE INTERRELATIONSHIP OF ADRENAL AND PITUITARY

Shumacker and Firor report the experimental work in rats and show quite conclusively that both clinically and experimentally severe pituitary deficiency causes a striking atrophy of the adrenal cortex, which may be restored to normal in animals by substitution therapy. Hyperpituitarism conversely results in a hyperplasia of the adrenal cortex. Both the pituitary and adrenal deprivation cause a stunting of growth, inactivity and a lowered body temperature. When either of these glands is removed there is an atrophy of the reproductive system with a marked alteration in the sex activity.

Shumacker, H. B., Jr., and Firor, W. M.: The Interrelationship of the Adrenal Cortex and the Anterior Lobe of the Hypophysis. *Endocrinology* 18:676-692 (Nov.-Dec.) 1934.

THE RELIEF OF PRURITIS

In a series of twenty-one cases the writer from the Washington University School of Medicine tried out the treatment of generalized pruritis in twenty-one cases with the oral administration of erythrol tetranitrate and glyceryl trinitrate. He found that these drugs gave complete or almost complete relief in ten cases, moderate relief in seven and no relief in four. They were almost completely ineffective in cases of localized pruritis.

Prinzmetal, M.: USE OF NITRITES FOR THE RELIEF OF PRURITIS. *Arch. Dermat. & Syphil.* 30:843-846 (Dec.) 1934.

RELATION OF CONVULSIONS TO BRAIN LESIONS

Dr. Grayzel of the Department of Pathology at Yale experimented on fourteen rabbits producing an artificial hyperinsulinism to produce convulsions. He found that rabbits which had no or slight convulsions showed no changes in the brain but rabbits which had had severe convulsions one or more times showed definite anatomical lesions in the central nervous system. These lesions were proportionate to the number and length of the convulsions. He describes these lesions as being zones of shrunken hyperchromatic cells and in more severe instances zones of necrobiosis.

Grayzel, D. M.: Changes in the Central Nervous System Resulting from Convulsions Due to Hyperinsulinism. *Arch. Internal Medicine* 54:694-701 (Nov.) 1934.

LOBAR PNEUMONIA AND DIGITALIS

The authors from the Hospital of the Rockefeller Institute for Medical Research report an analysis of 1,456 cases of lobar pneumonia to ascertain what influence the action of digitalis

has on the course of this disease. In their opinion it does not seem to influence the course of events in lobar pneumonia. In favorable cases in which auricular fibrillation and auricular flutter occur its action appears to be beneficial. It is not certain whether the action of digitalis precipitates the occurrence of auricular fibrillation, but if it does the number of cases is small, especially in the earlier decades. Heart block did not occur during the febrile period of lobar pneumonia except in those cases where an excessive amount of digitalis was given to bring it about.

Cohn, A. E., and Lewis, W. H. Lobar Pneumonia and Digitalis. *Am. J. Med. Sc.* 189:457-482 (Apr.) 1935.

SEXUAL STERILIZATION

The authors of this paper report their observations on 288 cases sterilized in the province of Alberta, Canada. They conclude that sexual sterilization is undoubtedly a logical and acceptable method of coping with the great problems of mental diseases and defects. In the patients whom they have sterilized they have received no complaints as to any change in libido or sex satisfaction. Their group includes chiefly mentally defectives and borderline cases with exceedingly bad family histories. Contrary to the frequently expressed fears there has been no evidence that sterilization will lead to promiscuity or a lowering of moral standards, and that on the other hand the treatment and training of the patients and the maintenance of an adequate follow up system are still essential. Factors regarded as hereditary were found in 60.8 per cent of cases.

Baragar, C. A., Davidson, Geo. A., McAlister, W. J., McCullough, D. L. Sexual Sterilization: Four Years' Experience in Alberta. *Am. J. Psychiat.* 91:897-923 (January) 1931.

THE ELECTROCARDIOGRAM IN CORONARY THROMBOSIS

Richter of the Rush Medical School of Chicago reports the electro-cardiographic studies of seventy-two cases of coronary thrombosis in which serial curves were taken, and only two failed to show significant changes. The author stresses the advantage of taking serial curves, one as soon after the accident as possible, one the next day, a third, forty-eight hours later, and if necessary at weekly intervals for a month or longer. He points out that it is possible for single records to be taken at times when the characteristic signs of coronary thrombosis are absent, and that serial records on the other hand rule out those conditions simulating coronary occlusion such as are seen in chronic valvular disease, hypertrophied hearts of athletes, and

(Continued on Page 210)

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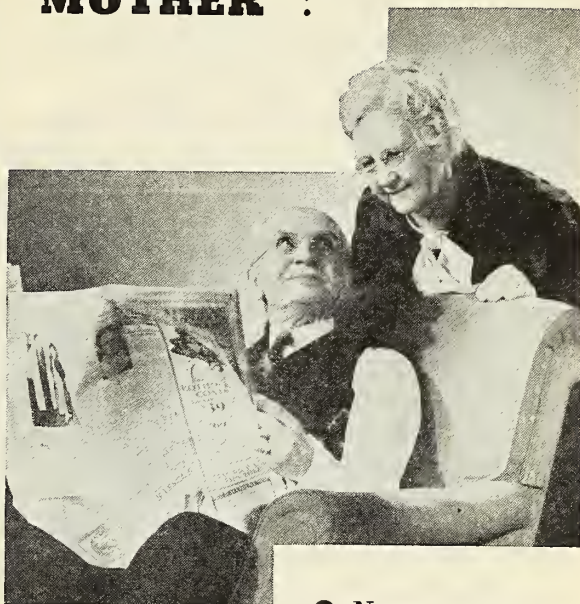
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those of chronic coronary disease. The serial curves of acute infectious diseases are usually not characteristic enough to confuse the diagnosis. He shows serial curves in four cases.

Richter, H. A.: The Value of Serial Electrocardiograms in Coronary Thrombosis. *Am. J. Med. Sc.* 189:487-497 (April) 1935.

THE ADOLESCENT HEART

The authors of this article made a study of 2,840 children, examined during a period of eight years. In this group they made the diagnosis of adolescent heart in 254 children between the ages of nine and sixteen years, representing nine per cent of the total cases. By adolescent heart they refer to a functional type of disturbance which in many ways simulates an organic disease. These children may complain of subjective symptoms, usually thought to be associated with organic heart disease. A systolic murmur was present in forty-two per cent, palpitation occurred in 123 cases, fatigue in ninety-nine cases, dyspnea in eighty-three cases, pain in eighty cases, vertigo in fifty-seven cases, and sweating in forty-one cases. In their conclusions the authors state that this is probably due to rapid physiological changes associated with adolescence. The outstanding electrocardiographic findings were the frequency of Q.R.S. complexes and of the T wave of high amplitude. It is their opinion that the differential diagnosis can be made only by careful evaluation and analysis of all the data obtained, and that in some instances a definite opinion should be given only after several years of careful observation.

Lissner, H. H., Goffin, J. L. C., and Rosenfeld, M. H.: The Adolescent Heart. *Am. J. Dis. Child.* 49:353-360 (Feb.) 1935.

ETIOLOGICAL BACKGROUND OF URTICARIA

Stokes, Kulchar, and Pillsbury report a study of the etiological background of urticaria with especial reference to the psychogenic factors. They carefully review the literature on the subject quite extensively although chiefly from a dermatological point of view. They report the study of one hundred cases of urticaria, as to the etiology, and point out six possible groups of causal factors: familial predisposition, personal allergic status, gastro-intestinal disturbance, infection, idiosyncrasy to drugs, and psychogenic components. The psychogenic component operated alone in twelve per cent of these cases, but was exhibited in the background in eighty-three per cent of their cases. They regard the psychological as a personality type rather than connecting it with any external circumstances. The chief of the psychogenic ele-

ments are the tension makeup, neuroticism, the worry habit, shock, family troubles, and finance. They especially mention that the exclusion of substances to which the patient gave a positive skin reaction and an elimination diet were conspicuously unsuccessful as therapeutic measures. Their treatment consists of an acid-calcium regime, non-specific desensitization, psychotherapy, actinotherapy, dietotherapy, and occasionally the administration of atropine and ephedrine.

Stokes, J. H., Kulchar, Geo. V., Pillsbury, D. M.: The Effect on the Skin of Emotional and Nervous States. *Arch. Dermat. & Syphil.* 31:470-499 (April) 1935.

NUTRITIONAL TREATMENT OF ACNE VULGARIS

Lerner who is associated with the New York Post-Graduate Medical School at Columbia University reports on a study of twenty patients with acne vulgaris in which he used a nutritional treatment. Essentially this was done by substituting calcium, potassium and magnesium for the common table salt used by the patient. It necessitated a good deal of inconvenience for the patient and for this reason was not entirely successful; in addition it requires frequent injections of a mixture of the salts. In this series of 20 cases no other therapeutic measures were used and a good response was obtained in patients with pustular and indurated types of acne. The author believes that local applications and fractional doses of roentgen therapy have enhanced and hastened the results.

Lerner, Chas.: Nutritional Treatment of Acne Vulgaris. *Arch. Dermat. & Syph.* 31:526-531 (April) 1935.

SYPHILIS OF THE KIDNEYS

Hermann and Marr review the literature on syphilis of the kidney and add three additional personally observed cases. In their conclusions they point out that syphilis of the kidney does occur though is quite uncommon. They suggest a clinical classification of this disease into acute, subacute, and chronic syphilitic nephrosis.

Herrmann, G., and Marr, W. L.: Clinical Syphilitic Nephropathies, A Study of New Cases and a Survey of Reported Cases. *Am. J. Syphil. & Neurol.* 19:1-29 (January) 1935.

Bibliography: Dr. Louis Rudolph's article on The Dystocia of the Vertex Presentation.

(Continued from Page 200)

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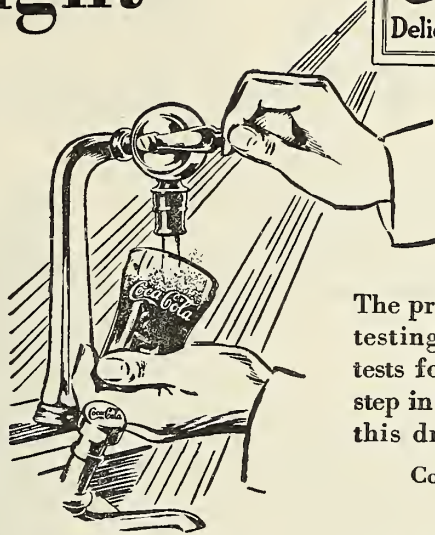
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2. Rudolph, L.: *Am. Jour. Obst. Gynec.* 25:563, 1933.
3. Calkins, L. A.: *Am. Jour. Obst. Gynec.* 27:349, 1934.
4. Grandin, E. H.: *Am. Gynec. Trans.* 15:382, 1890.
5. Reynolds, E.: *Am. Gynec. Trans.* 32:43, 1907.

(Continued on Page 212)

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NEWS NOTES

NEWS AND SPEAKERS PROJECTS

The Committee on Public Health and Education composed of Dr. H. E. Haskins, chairman, Kingman; Dr. V. E. Chesky, Halstead; Dr. H. F. Hyndman, Wichita; Dr. Forrest A. Kelly, Winfield; and Dr. C. R. Lytle, McPherson, met in Wichita on April 10 for consideration of radio talks, news releases, and speakers bureaus to be sponsored by that committee. Plans were approved whereby weekly articles will be prepared on timely medical subjects, and forwarded to Kansas daily and weekly newspapers for publication. Also, efforts are to be instituted in the near future for development of speakers bureaus among the various county medical societies to present talks on medical and economic subjects before lay groups. Radio activity is to be withheld until the other projects are operating satisfactorily.

McPHERSON COUNTY PLAN

A new plan for medical care of indigent persons was instituted in McPherson County on April 5. By virtue of a contract, the county commissioners have designated the county medical society as county physician, and all members of the society and other eligible physicians are authorized to administer indigent care. A fifty per cent fee schedule has been accepted and additional arrangements were made for mileage, hospitalization and drugs. Physicians are furnished an official list of those entitled to service, and others, not appearing thereon, are referred to the county poor commissioners for approval or rejection. All care is furnished on a strict free choice of physician basis.

PHYSICIANS DESIRED

Information has been received that Paxico desires the service of a physician. None is located there at present, and it is said that a good practice is available. Suitable offices are accessible in a drug store owned by Mrs. J. F. Nuttman. The town has a population of approximately 350 and is located ten miles from Maplehill, fourteen miles from St. Marys, eighteen miles from Wamego, twenty miles from Eskridge, and thirty miles from Topeka. Further details may be secured by writing Mrs. J. F. Nuttman, Paxico, or the central office.

Kirwin, sixty miles northwest of Hays, is also still without the services of a physician. Additional correspondence, received from Mr. John M. Gray of that city, indicates that considerable advantages are possible.

MEMBERS

Dr. A. R. Adams has been appointed city physician and city health officer of Leavenworth. He is also president of the Leavenworth County Medical Society.

Dr. L. D. Johnson, Chanute, and Dr. O. L. Garlinghouse, Iola, attended a banquet given by the Kansas City Academy of Medicine, at the President Hotel, in Kansas City, on April 14.

Dr. W. R. Kenoyer, Hugoton, has returned from Los Angeles, California, where he has been taking special medical work.

Dr. J. W. Spearing, Cimarron, has been appointed county health officer for Ford county.

Physicians from ten states attended the Menninger clinic held in Topeka from April 15 to April 20 which was a postgraduate course on "Neuropsychiatry in General Practice," given by the staff of the clinic. Dr. Robert P. Knight, Topeka, was chairman of the course, and several out-of-state speakers gave addresses. A round table, which enabled physicians to present cases for discussion was held on Saturday, the last day of the course.

OFFICIAL CALL

To the Officers, Fellows and Members of the American Medical Association:

The eighty-sixth annual session of the American Medical Association will be held in Atlantic City, New Jersey, from Monday, June the tenth, to Friday, June the fourteenth, Nineteen hundred and thirty-five.

The House of Delegates will convene on Monday, June the tenth.

The Scientific Assembly of the Association will open with the General Meeting held on Tuesday, June the eleventh, at 8:30 p. m.

The various sections of the Scientific Assembly will meet Wednesday, June the twelfth at 9 a. m. and at 2 p. m. and subsequently according to their respective programs.

Attest: Olin West, Secretary,

Chicago, Illinois, March the twenty-fifth.

Walter L. Bierring, President.
Frederick C. Warnshuis,
Speaker, House of Delegates.

COUNTY SOCIETIES

The Anderson County Medical Society held a meeting April 3 in Garnett and discussed plans for future meetings.

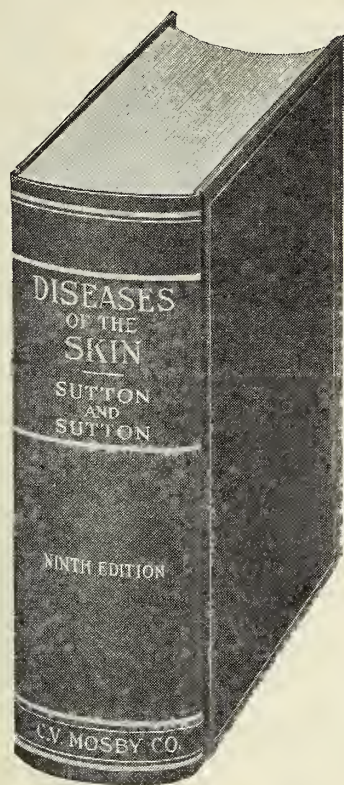
Members of the Barton County Medical Society and guests from Reno, Rice, Stafford, Pratt and Edwards counties met on March 28 in Great Bend for a dinner meeting. Dr. Porter Brown and Dr. K. L. Druet, both of Salina, were the guest speakers on the program. A sound motion picture showing the manufacture of insulin was shown during the program.

Dr. O. R. Withers, Kansas City, Missouri, spoke on "Allergy in General Practice" and Dr. Paul Gimple, Kansas City, Missouri, on "Functional Uterine Bleeding" at a meeting of the Bourbon County Medical Society on April 15 in Fort Scott. A discussion of these papers followed.

The Brown County Medical Society met April 26 for a dinner meeting in Hiawatha with Dr. H. W. Carle, St. Joseph, Missouri, as the principal speaker. His subject was "Hypoglycemia, the Non-Diabetic Type." Dr. Charles

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The *London Lancet*, that most conservative of publications, refers to it as "world famous," and the *British Journal of Dermatology* as "an atlas of skin diseases."

The volume is well balanced, and evenly written. The clinical descriptions are complete, and the matter of differential diagnosis is given the attention it deserves. Sound and proved methods of treatment are suggested. The prescriptions recommended are those which have stood the test of time. The collection of photomicrographs is one of the finest ever published.

In the ninth edition the author has requisitioned the services of his son, Richard L. Sutton, Jr., A.M., B.S., M.D., L.R.C.P. (Edin.), who is also a teacher in the University of Kansas School of Medicine, and who was his collaborator in the popular and widely used text, "AN INTRODUCTION TO DERMATOLOGY."

Descriptions of more than a score of newly recognized diseases are included, and the literary references have been brought up to the summer of 1934.

Half a hundred new illustrations have been added, many of them portraying disorders that have never before been included in any textbook.

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The C. V. Mosby Company, Publishers, 3523 Pine Blvd., St. Louis, U. S. A.

Greenburg, St. Joseph, Missouri; gave a paper on "Transurethral Section of the Prostate."

At a meeting of the Cloud County Medical Society in Concordia on April 2, a sound film showing the preparation and clinical use of insulin, was shown to the physicians of that county and visiting physicians from surrounding counties. Dr. C. C. Stillman, councillor for that district, gave a short talk. Members of the society presented a symposium on diabetes as related to general practice and the specialties, and a discussion by the guests followed.

Dr. P. C. Hardin, Arkansas City, was the principal speaker at a meeting of the Cowley County Medical Society on April 11 in Arkansas City. He spoke on "The Surgical Treatment of Crippled Children."

The Crawford County Medical Society held a joint dinner meeting with the auxiliary on March 28 in Pittsburg. The ladies of the auxiliary had charge of the program. On April 11 the society held a meeting with Drs. O. J. Dixon and Ferdinand C. Helwig, both of Kansas City, as guest speakers. Dr. Dixon's topic was "Report of Experimental Studies with Viable Muscle in the Control of Hemorrhage," and Dr. Helwig's subject was "Determining the Type of Malignant Tumors from Pathologic Studies."

Members of the Dickinson County Medical Society held a meeting in Herington, April 18. Dr. Richard L. Sutton, Kansas City, gave a talk on "Skin Diseases."

The Ford County Medical Society held a dinner meeting in Dodge City. Physicians from the southwestern part of the state were guests and Dr. C. F. Taylor, Norton, and Dr. H. L. Snyder, Winfield, were the main speakers during the evening session. The program started at 3:00 p. m. and closed after the general discussion of a paper given by Dr. F. L. Loveland, Topeka, on the economics question. Dr. W. M. Mills, Topeka, gave a paper with a discussion by Dr. H. N. Tihen, Wichita.

The Golden Belt Medical Society held their Forty-sixth annual meeting April 11 in Junction City. The program started at three o'clock in the afternoon with a talk by Dr. W. S. Yates, Junction City, on "How Are We Going to Live." Later in the afternoon, Dr. M. B. Miller, Topeka, spoke on "Bacilluria;" Dr. C. F. Taylor, Norton, on "Methods of Arriving at a Diagnosis in Tuberculosis;" Dr. Frank C. Neff, Kansas City, Missouri, on "Diagnosis of Certain Disturbances in Childhood," and Dr. H. L. Snyder, Winfield, on "The Cancer Problem." The speakers were followed by a dinner for the visiting physicians. Officers for the coming year are as follows: Dr. J. L. Lattimore, Topeka, president; Dr. R. R. Cave, Manhattan, vice president; Dr. F. R. Croson, Clay Center, secretary.

Members of the Tri-County Medical Society, including physicians from McPherson, Harvey, and Marion counties, held a meeting on April 10 in McPherson, with Saline, Rice and Reno county societies as their guests. Dr. T. G. Orr, Kansas City, Missouri, gave a talk on "Recent Viewpoints on the Treatment of Gallbladder Disease;" and Dr. E. C. Padgett, Kansas City, Missouri, spoke on "Recent Advances in Chest Surgery."

Dr. Meyer Wiener, professor of clinical ophthalmology, Washington University, St. Louis, Missouri, gave a talk on "Inflammatory Diseases of the Eye," and Dr. J. Bar-

rett Brown, associate professor of surgery, Washington University, St. Louis, Missouri, talked on "The Repair of Surface Defects Due to Burns and Other Causes," at the meeting of the Reno County Medical Society in Hutchinson on April 19.

Officers elected to serve in 1935 for the Riley County Medical Society are Dr. Willard C. Schwartz, president; Dr. J. D. Colt, Sr., vice president; and Dr. Darrell L. Evans, secretary, all of Manhattan. At a meeting on March 14 in Manhattan Dr. K. L. Druet, Salina, spoke on "Some Aspects of Diabetes Mellities."

Members of the Saline County Medical Society met in Salina on April 16 to complete plans for the state meeting to be held there in May.

Eighteen physicians who have practiced medicine in Kansas for more than 50 years, were honored at a banquet given by the Sedgwick County Medical Society on April 19, in Wichita. Dr. D. W. Basham, Wichita, presided at the special table for the guests, and gave a short talk. Dr. A. B. Rivers, Mayo Clinic, Rochester, Minnesota, gave the main address of the evening, on "Some Problems Relating to the Diagnosis and Treatment of Peptic Ulcer."

A dinner meeting of the Sumner County Medical Society was held March 21 in Wellington. Dr. G. E. Stafford, Salina, gave a paper on "Pituitary Diseases of Children," and Dr. W. H. Neel and Dr. Karl E. Volgend, led the discussion following the paper.

Members of the Washington County Medical Society were hosts to the Clay County Medical Society at their meeting on April 9 in Washington. A paper on "Frontal Sinus" illustrated with lantern slides was given by Dr. C. D. Armstrong, Salina; and one on "The Baby" by Dr. E. G. Padfield, Salina.

The Wilson County Medical Society held a dinner meeting in Neodesha on April 8, with the members of the Wilson County Auxiliary.

The two April meetings of the Wyandotte County Medical Society were held in Kansas City at the Providence Hospital and Bethany Hospital, respectively. At the April 17 meeting Dr. Francis Carey, Kansas City, gave a paper on "The Common Complications Following Abdominal Operations and Their Treatment." On April 24, Dr. E. A. Reeves, Kansas City, gave a case presentation on "Internal Hernia of the Broad Ligament with Twisted Ovarian Cyst," and Dr. L. E. Growney, Kansas City, gave one on "Diagnosis and Treatment of Pernicious Anemia."

DEATH NOTICES

Dr. Farquard Campbell, 54 years of age, died at his home in Kansas City, on April 1, after serving as physician in Kansas City for thirty-one years. He was born in London, Canada, in 1880, and graduated from Western University there in 1903. He went immediately to Kansas City and remained there during the rest of his career. He took postgraduate work at the Cook County Hospital, Chicago, and also at the Mayo clinic, Rochester, Minnesota. He studied in Edinburgh, Scotland, for a period of seven months in 1929. He was a member of the Wyandotte County Medical Society, and a member of the Kansas City, Kansas, board of health.

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damentally unsound and maybe downright harmful.

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If you are tempted to try some diet which has been recommended to you as a cure-all, have a talk with your doctor first.

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Dr. C. H. Johnson, 66 years of age, died at his home in Atchison, on April 3 from a heart attack. He graduated from the Columbia University, College of Physicians and Surgeons, in New York in 1895. He was a member of the Atchison County Medical Society.

Harrow, Ph. D., associate professor of chemistry, City College, New York, and Dr. Carl Sherwin, member of staff of St. Vincent's Hospital and French Hospital, New York. Published by W. B. Saunders Company, Philadelphia, at \$6.00 per copy.

MORBIDITY REPORT

New communicable disease cases in the state as compared with last month are reported by the Kansas-State Board of Health as follows:

Disease	Month ending April 13	Month ending March 16
Measles	6681	5684
German Measles	6104	3808
Mumps	713	648
Chickenpox	346	465
Whooping cough	285	298
Pneumonia	277	442
Scarlet Fever	257	381
Smallpox	87	52
Syphilis	77	107
Gonorrhea	61	64
Tuberculosis	59	66
Diphtheria	46	42
Influenza	41	91
Pink-eye	15	19
Meningitis	13	11
Cancer	8	8
Vincent's angina	6	1
Undulant Fever	3	1
Typhoid Fever	2	4
Scabies	1	2
Tularaemia	1	0
Encephalitis	1	0
Poliomyelitis	0	1
Tetanus	0	1

NEW BOOKS RECEIVED

NAMES OF SURGICAL OPERATIONS—Compiled by Western Surgical Association. Edited by Dr. Carl E. Black, Jacksonville, Illinois. Published by the Bruce Publishing Company, Minnesota, at \$3.00 per copy.

THE 1934 YEARBOOK OF NEUROLOGY PSYCHIATRY ENDOCRINOLOGY by Dr. Hans Reese, professor of neurology and psychiatry at the University of Wisconsin Medical School; Dr. Harry Paskind, assistant professor of nervous and mental diseases, Northwestern University Medical School; Dr. Elmer Sevringhaus, associate professor of medicine, at University of Wisconsin Medical School. Published by the Year Book Publishers, Chicago, at \$3.00 per copy.

DOCTORS AND JURIES by Mr. Humphreys Springstun of the Detroit Bar. Published by P. Blakiston's Sons and Company, Inc., Philadelphia, at \$2.00 per copy.

SURGICAL PATHOLOGY OF THE PERITONEUM by Dr. Arthur E. Hertzler, surgeon to Agnes Hertzler Memorial Hospital, Halstead, Kansas, and professor of surgery, University of Kansas. Published by J. B. Lippincott Company, Philadelphia, at \$5.00 per copy.

TEXTBOOK OF BIOCHEMISTRY, Edited by Benjamin

KANSAS MEDICAL AUXILIARY

Members of the Brown County Medical Auxiliary held a joint dinner meeting with the medical society on April 26 in Hiawatha after which the ladies met for a short business session.

The Crawford County Medical Auxiliary was in charge of the program for the medical society meeting held on March 28. Musical numbers and a play were the main part of the program. Committees for the session were Mrs. C. M. Gibson, Mrs. E. J. Schulte, of Girard, and Mrs. H. E. Marchbanks; decorations, Mrs. E. C. McDonald and Mrs. H. J. Veatch; banquet, Mrs. A. J. Revelle and Mrs. C. D. Bell.

Members of the Labette County Medical Auxiliary met at the home of Mrs. C. S. McGinnis, Parsons, for the regular monthly meeting. Mrs. C. N. Morrow gave a paper on "Modern Medical Science." Two guests at the meeting were Mrs. J. C. Creel, Sr., and Mrs. Conyers Herring. Members present were Mrs. T. D. Blasdel, Mrs. G. W. Hay, Mrs. C. S. McGinnis, Mrs. Mirl Ruble, Mrs. L. A. Proctor, and Mrs. N. C. Morrow.

A short business meeting was held by members of the Montgomery County Medical Auxiliary on March 15 in Independence after which the ladies were guests of the medical society at the showing of a sound film on the production and use of insulin. Dr. E. C. Duncan, Fredonia, gave a talk on legislative problems of the profession.

Dr. and Mrs. Beal, Clearwater, were host and hostess to the members of the Sedgwick County Auxiliary on March 25 in Clearwater. Dr. Beal gave a talk on "History of Medical Instruments."

The Wilson County Medical Auxiliary met in Neodesha on April 15 and officers elected for the coming year were: Mrs. E. C. Duncan, president; Mrs. H. E. Morgan, vice president; Mrs. B. P. Smith, secretary-treasurer. The program consisted of papers on "State Medicine," and "Medical Insurance" by Mrs. J. W. McGuire; and "Posture" by Mrs. H. E. Morgan.

EXCHANGES

BASIC SENSE

Somewhere, wandering about the smoky committee rooms and spittoon-littered marble halls of the Kansas state house is a bill known as the basic science act.

It requires that anyone in the future applying for a license to practice the art of healing human beings in Kansas must first pass an examination in elementary physiology. He should be required to know a few simple facts about the human body—the location and functions of its main bones, nerves, muscles and organs.

Anyone in the future applying for a license to heal in



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Kansas, whether as a doctor, an osteopath, a chiropractor or any one of the other healing cults, would be required to take this easy examination which any high school graduate, with a little cramming, can easily pass.

It would not be nearly so hard as that now required for a veterinarian's license. Kansas sets much higher standards for the people who treat sick hogs than she does for those who treat sick human beings.

The reason for this is that hogs as yet have not been given the vote. If they ever are, we will probably find that they will fall victim to various cults. Some of them will develop conscientious scruples against vaccination. Others will be come persuaded that hoof and mouth disease, glanders, trichina and all other porcine ailments can be cured by the proper adjustment of their spare ribs. And they would demand legislation recognizing all these hog-healing cults.

The basic science law would invoke no hardship on the cults. No person now practicing any of the arts, sciences or magics of human healing in Kansas would have his license revoked. None would have to take the new examination.

It would affect only those desiring to enter the profession, business or racket of healing in the future. Nor would it interfere with what is known as "medical freedom." For those having passed this examination would not be required to put its common sense knowledge into practice on their patients. They would be just as free to follow their fancies as they are now, and disregard what they had learned.

You may think this bill is not rigid enough. But at least it is an improvement over our present situation. As it now stands, any man who will pay tuition and take a six-week course in some wild healing cult, and who then passes the childish simple examination ordained by the leaders of this cult in its own phoney kind of science, is thereupon licensed by the state to hang out his shingle and practice for his personal profit the art of healing upon the people of this state.

The bill does not apply to Christian Scientists, whose faith-healing is a philosophy and a religion, rather than an occupation conducted for profit. But for the others, it does insure that a man who takes money for treating human ailments must know at least half as much about the human body as a veterinary is required to know about a hog.

On this basis, it seems reasonable, and should pass. It is not only basic science, but basic sense.—W. L. W. in Emporia Gazette.

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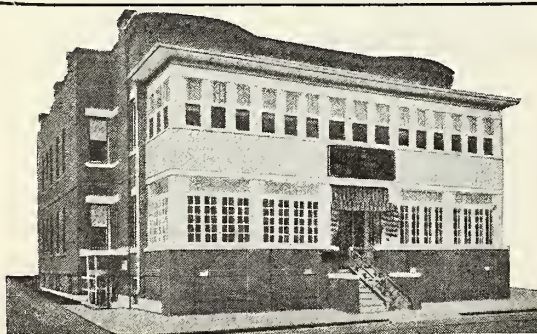
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SOME MEDICAL PROBLEMS

J. F. HASSIG, M.D.

Kansas City, Kansas

It is a pleasure to address you today and I want you to know that I deeply appreciate the honor bestowed upon me when you made me President of the Kansas Medical Society. For seventeen years I appeared before this body as your secretary, and such is the force of habit, I may become confused in my duties as President and assume those of my former office.

When I accepted the office of President, I pledged myself to devote my time and energy to the office, trusting that I might, in being ever mindful of the responsibilities of the position, justify myself in accepting the honor.

It is fitting at this time that we pay tribute to the entire membership for the splendid cooperation we have enjoyed, and especially do we commend the officers and councilors, and members who have labored on the various committees. When the reports of the committees are submitted to the House of Delegates you will understand our appreciation of their activities.

Our able and energetic executive-secretary has been busy since he assumed his office. Besides publishing the Journal, which is no small job, he has sent out numerous bulletins of great value to the profession, and which have been fully appreciated.

Among the activities of our organization there is none more important than the publication of the Journal. I believe the majority of the members look forward to its monthly appearance with pleasant anticipation, containing as it always does valuable articles, together with information on vital and important questions which concern the welfare of the physi-

cians and that of the general public.

I am not presumptuous enough to think that I shall be able to bring you anything new or original at this time, but I hope I may be able to say something in a way that will merit some measure of consideration.

There are many problems of the profession that could be profitably discussed if time were no factor. But it is, so I want to talk just a little while on our economic problems. Every thoughtful physician wishes to keep himself informed on these problems, and there is no better way for him to acquire this knowledge than to acquaint himself with the articles published by the American Medical Association through its Bureau of Economics.

Just here, I would mention the cult problem that is confronting organized medicine today. The various cults are ever endeavoring to enjoy all the privileges of the medical man without the expenditures of time, money or effort that it has cost the medical profession, and so far as I know or have been able to learn, they have never made a single contribution to the science of medicine. Every one should be free to take whatever course in medical training that he may desire, but if he is to practice the healing art he should enter the field of medicine through the same gateway after having traveled the same long, hard road that we have traveled to reach this goal. There are no short cuts to this field. It is my firm opinion that we should have a uniform medical practice act.

The time has come when the medical profession should assume an offensive position in the enforcement of its rights for it must help itself if it is to achieve the lasting benefits to which it is entitled.

The medical profession in little over a half century, has done more for the human race than any other body of men. Immunization, sanitation, anesthesia, surgery, therapeutics, the

*Presidential Address read before the Kansas Medical Society 77th annual meeting, Salina, May 8-10, 1935.

sciences of bacteriology, pathology, physiology and chemistry have effected a revolution on the civilization of the world. These are the priceless gifts of the medical profession to a suffering humanity.

Medicine is the most difficult of sciences and the most laborious of arts, for it taxes the powers of both body and mind. A doctor who is true to the ideals of his profession will not put a monetary value on his services as a first consideration, but will place the welfare of the patient over and above every other consideration. His reward lies, to a large measure, in the knowledge that he is serving humanity for a vital purpose.

However, it must be recognized that the doctor is subject to the same economic forces that weigh down the rest of society; has the same desires and ambitions, and cannot, if he is to continue to live and render this service, be expected to find his only reward in the satisfaction of his conscience.

The health of the public costs more than it did in the good old days. Compared with what it was, say in the "gay nineties," the medical bill is so much bigger today that many people are seriously concerned about it as a public question. In every way it costs more to be sick.

Probably the indirect cause of this rather disturbing situation which exists in the medical field today can be traced to the kindly old doctor, who, with all his lovable human traits, was not really a business man, but conducted his affairs in a rather haphazard manner. His greatest fault was his generosity, and his patients who were human imposed upon him in an inhuman way. Folks got into the habit of putting the doctor's bill last on the list, and if there wasn't enough money left after the other bills were paid—it was just too bad for the good "old Doc." The fees collected were often but a small part of those earned.

There seems to be a growing unrest in the medical profession due to inadequate compensation, and among the patients a widespread complaint because of the high cost of medical services. The cost of this service is one of the greatest outstanding problems before the profession today, as well as one of the most talked about subjects by civic organizations and the public in general. Dozens of magazine articles and numerous newspaper items published in recent months but emphasize the extent and keenness of popular interest in this problem. In most of these articles an analysis of the various

factors that enter into the cost of medical care is seldom made. The major part of these contributions have been written by laymen, and these discussions have brought about many erroneous opinions among the laity.

One of the first things that enters into the cost of medical care is the cost and expense of medical training and education. Statutory requirements in all states now provide that to practice medicine a doctor must be a graduate of a reputable medical school, pass a licensing examination before a state or national board, and in several states they must register annually with the state medical board. In addition, a hospital internship is required by most of the medical schools before a diploma is granted.

The minimum requirements for admission to acceptable medical schools in addition to the high school work is 60 semester hours of collegiate work, exclusive of military and physical education, extending through two years of thirty-two weeks each, exclusive of holidays, then four more years are required in a medical school approved by the Council on Medical Education and Hospitals. This cannot be accomplished without an outlay of expenditure to the doctor, of very much less than ten thousand dollars.

After this, in order for one to keep abreast with the medical procession, it is necessary for him to take some post-graduate work every few years. And this is expensive. But it is necessary if a doctor is to keep up with the latest methods and advancements made in the medical world.

The people are demanding the best medical talent that can be obtained, and they have a right to the best. Money value should have no consideration when one is dealing with human life. The equipment and furnishings of a doctor's office have become more and more complicated and more elaborate, and therefore more costly. The diagnostic appliances, laboratories, x-ray outfits, are all essential now in rendering proper services to the patients.

The foremost factor that has driven medical fees to their present height is the cost of delivering medical services. A man who gives a salesman a thousand dollars for an automobile knows the salesman does not keep the thousand dollars for himself. He never accuses the salesman of making a thousand dollars by the transaction. Yet the same man who gives the doctor twenty-five dollars, thinks that the doctor has made that amount of money, and put it all into

his pocket. From the outside it looks like clear profit. This man has not stopped to think that the delivery of medical service carries with it a definite and considerable overhead expense quite as real as that of an electrician, plumber or auto mechanic.

A doctor who keeps up to date in professional knowledge and equipment is compelled to expend from fifty to seventy cents of every dollar that he receives to defray the actual expense of delivering competent service to his patients. This heavy overhead expense is something that did not exist in the nineties.

Taken altogether, it is astonishing the overhead expense that goes into the service that a patient gets, even though it is only a twenty or thirty minute consultation, but the services rendered may involve enough overhead to call for a fee of ten dollars or even twenty-five dollars. An x-ray picture is an excellent example. Twenty-five dollars' worth of x-ray work may be done in a very few minutes.

A progressive doctor spends considerably more than one hundred dollars per year for books and journals alone, and many more, attending professional meetings, post-graduate courses, et cetera, so that he may maintain his standard of ability. His days of study do not end when he receives his diploma, but must continue eternally if he is to keep abreast of developments. It is one of the few professions wherein so much work of this sort is required of the conscientious practitioner. There is always something new to learn. No physician ever entirely masters his profession.

The hours that a physician spends with his patients is only a very small part of the time required by his job. He may give the needed services in a very brief space of time, but it has taken years of study and observation to acquire the skill and information that enabled him to render it—a point that is often overlooked in passing judgment on the fairness of the doctor's bill. Another reason for the higher cost of medical service is that today the medical profession has more to give to the public and this greater value rendered must be paid for.

The majority of the medical profession is not endowed with any great wealth, but because of a pride in his profession and the necessity of the wherewithal to maintain an existence, he wants his practice to pay his expenses. He wants to be a successful doctor.

The feats of modern medical science, the medical story of the ages, could not be told in

the short time allotted to me. No one needs more than a mere reminder in order to realize and appreciate that the accomplishments of medical science are little short of miracles in the relief of suffering, the salvage of human efficiency, and the prolongation of human life. That all of these advances have to be paid for is the point I am trying to bring out. They have to be paid for just the same as our automobiles, skyscrapers, good roads, parks, our good clothes, and vacation trips.

The doctor is merely the retailer of these medical benefits. The dollar that he gets does not remain in his personal pocket, but he must distribute it among a great many agencies such as technicians, educators, research workers, manufacturers, distributors and all the complex social fabric that makes it possible for all these people to work together to carry forward the front line of medical progress to relieve pain and save life.

We believe, if these people who complain about the high cost of medical service, would stop to consider what the world would be without the medical service that this present world has come to depend upon and take for granted, they would back down on the complaint and be willing to pay everything they possess for this service when the occasion demanded a physician.

If these writers who are so interested in the economic problems of the people would devote more time and energy in an effort to educate them to deny themselves the non-essentials and be prepared for the emergencies that come to all, they would render a more valuable service to the public than by their criticism of the charges of the medical profession which is constantly giving of time and money toward the welfare of the people, and the prolonging of human life. It is unjust to make the doctor's fee the target of all this adverse criticism that has been directed toward it when in reality our fees have not greatly increased when compared to services in all other lines.

Compare if you will, the class of men who study medicine, their years of preparation, their self-sacrifice and the cost physically and financially, with the class of men who, with but few exceptions, enter politics. Then remember that the medical profession permits itself to attempt to practice under laws and regulations, most of which are proposed by members of the average state legislature and city governments.

The legal profession should be taken as an

example by the medical profession. They have an active body known as the Bar Association, and through this association laws are suggested and formulated but are seldom passed if they have any direct bearing on that profession, without the complete sanction of the association. The law has a much greater representation in all the legislative bodies of the country than that of the medical profession which accounts largely, for the success of the measures it may wish to put through.

In no other profession or business are there as many channels being used to divert from the proper source their rights, legitimate business and income as we find directed toward the members of the medical profession. Physicians should take an active interest in all of the medical organizations—their county, state and national medical societies. They should insist that each of these organizations take a part in the making of laws which are of vital concern and interest to organized medicine.

We believe that the profession, by force of numbers and backed by sincerity of purpose and public opinion, could and should take the law-making and law-suggestion from the laity, politicians and special interests, and they should see to it that laws are passed regulating abuses, and permitting only such laws as will be beneficial to both the physician and public to be written into the statutes.

A county medical society that functions properly is interested in any problem that concerns the physicians within its jurisdiction, as well as the scientific programs which deal only with the patients.

The State Society should be a body alive to the interests of the physicians within the state, and should insist upon legislation that will protect its members and their interests. Perhaps it would also be profitable to the profession if, during the annual meeting, a certain time could be set apart for the discussion of economic questions, along with the scientific subjects.

Much has been accomplished in the way of legislation for the public good, but more could be done if the State Society presented a solid front and demanded just laws for the profession as well as the public. In demanding the right kind of laws the profession is not acting from selfish motives. Who is better able to judge what is best for the profession and the public welfare in medical legislation than the physicians of the state?

Every honest physician, and I believe the

majority are perfectly honest, wants to see the diseases which cause such terrible suffering and are dangerous to life stamped out wherever possible, and properly controlled where it is not possible to entirely eradicate them. But the physicians should have their opportunity to be the guiding influence in the cases where the public is able to pay for such services.

To every physician and his family, it is as much his duty to become a factor for his own protection as it is the duty of every citizen to regularly vote to choose the proper representatives in all branches of government. Every physician would willingly inscribe his name to the proposition of free medical service to the ailing poverty-stricken. But where free clinical service is administered by any form of group hospital organization to those quite able to pay, where bureaucratic boards take from the physician a legitimate source of income, and deprive the patient of free choice of a doctor, then the physician has a right to register his objection in no uncertain manner.

No student of medical economics believes for a moment that the patient's difficulty in paying medical costs is due to the excessive fees on the part of the physicians or other practitioners. Of course, there are a few bandits in medicine, just the same as there are in other walks of life, but any impartial analysis of the incomes of physicians leads to the conclusion that in view of the time devoted to training and education, and the responsibilities assumed, there is no general overpayment of physicians. In fact, one of the significant aspects of the practice of medicine in the United States is the insecurity of the financial condition of the greater part of the medical practitioners.

We find that there are large groups of our people who, though not indigent, nevertheless have so little surplus after the bare necessities of life have been obtained that they cannot reasonably be expected to pay the cost of decent medical service, economically provided.

This is a serious problem, for our sympathy, our sense of fair play and our desire for self-protection and self-preservation all demand that we emphatically reject any suggestion that these people should be given an inferior service. If we expect charity to meet the cost we are faced with the fact that charity, when labeled as such, is distasteful to self-respecting people and is too erratic and inadequate to meet such a large problem.

Our vital concern is that a sinister force is

working against our medical system. Lay organizations are reaching out in various directions in an effort to find some method of lowering the cost of medical service—without regard to the quality of such service. The methods proposed by these organizations will inevitably result in inferior services as has been demonstrated by the morbidity and mortality statistics of European countries. We have been pleased to call ourselves public servants, but we refuse to be slaves bound by chains forged by these probably well meaning, but certainly misguided groups. Let us stand shoulder to shoulder and battle this insidious foe to our economic security and the public welfare.

This compensation problem has caused much agitation in medical circles during the past 18 months and no one knows just where we are going to head in. But the medical profession through its societies must be awake to the situation, and where, and if, the time comes when intelligent action is needed let us not be found asleep at the switch.

The care of the indigent poor is a perplexing problem to the medical profession. It has always been more or less of a problem but in these years of depression it has grown almost beyond our resources. We want the poor cared for, but that we should shoulder all the responsibility for their medical care without charge seems somewhat of an imposition. All agencies for relief of the indigent seem perfectly willing to furnish clothes, food and fuel, but they do not make any provision for their relief in sickness. This is the burden laid upon the doctor, and the doctor alone, because he is charitable and humane, carries the cross.

From the reports received from medical societies throughout the state, and from what I know from personal observations, the number of indigent sick has reached such proportions that it is almost a physical, a financial and a professional impossibility to care for them. Our doctors over the state have gone willingly to these cases, giving care, medicine, gas and oil without remuneration, but the time has come when the credit of many doctors is impaired, and he cannot carry this burden much longer unless society shoulders some part of the financial burden. We, as a profession, are entitled to a decent livelihood, but our first and foremost purpose should be our service to humanity. Medicine gives and gives and gives to charity, but the profession should not be expected to contribute funds to every charitable organiza-

tion and enterprise, and then treat all the indigent in the state free of charge.

Every community has its own particular and peculiar problems and it is the duty and privilege of the people of that community to solve their own problems. In affairs where the public health and welfare are concerned the medical profession should be a potent factor in working out the solution of the problems concerning disease which belong to the medical profession, for it alone is competent to solve such problems.

In concluding, I should like to urge that you each go back to your county society, and spare no effort to build up the strongest and most efficient organization possible. As we have previously stated, the county society is the port-of-entry to the American Medical Association and the hub of organized medicine.

Strive to acquire as members every desirable physician within your territory, and then make your programs as attractive and instructive as your ingenuity can devise. Give of your time and ability to build an organization that not only functions for the profession, but that also contributes to the service of the community of which you are members. Then when we speak of an organized medical profession it will be just that, and not merely an appellation.

"Give to the world the best you have
And the best will come back to you."

ACRODYNIA

WM. BREWER, M.D.

Hays, Kansas

Acrodynia, synonymously termed Swift's Disease, erythrodermia, and Pink's Disease is a clinical condition occurring in infants and young children that runs a course of months. The disease is characterized by maceration of skin over the hands and feet, an elevation of blood pressure and a tachycardia, degenerative changes in peripheral nerves, nerve roots, spinal cord and other parts of the nervous system particularly the sympathetic system, and photophobia. As long as twenty years ago the condition was a problem in Australia and known and recognized in the present form. During 1827 to 1829 a condition thought to be acrodynia existed as a plague in France. History of the condition is meagre and we have no record of just how long the disease has been recognized. The term is derived from the Greek and denotes "painful extremities." The description

of erythrodermia that exists in Australia is probably the same as acrodynia in the United States. Dr. Swift¹ gave us that description. Freer³ published an extensive contribution upon what he considered to be a hitherto undiscovered neurosis of the vegetative nervous system. Its characteristics, however, appear to be identical with those of the condition described by others. Byfield⁴ believes the nature of the disease to be a peripheral neuritis mainly involving sensory nerves. Rodda⁵ maintains diseased tonsils are causative. Weston² describes it as a deficiency disease. Also the endocrines have been credited as being in fault. The actual cause is unknown, although, very recent work would indicate that arsenic and lead poisoning⁶ might be the cause of the condition.

The skin is seldom found to be normal. Byfield, Paterson, Greenfield,⁷ Kernohan, and Kennedy⁸ discovered certain degenerative changes in the peripheral nerves, nerve roots, and the spinal cord. Deamer and Bisking, University of California, report pathologic changes in the sympathetic nervous system and the ganglions of the posterior roots. They report high blood pressure and tachycardia which is a finding with Cobb, Wolf, Paterson, and Davison. These later workers report changes in the brain, spinal cord, and peripheral nerves seen at autopsy.

The onset lasts two or three weeks during which time the child is fretful, has little or no appetite, a discharging nose, refuses food and in many ways simulates the condition of a badly spoiled baby. Occasionally there is associated diarrhea and vomiting with great weight loss. Very shortly a symmetrical erythema of a decided pink color develops. This pink color later becomes most marked at the ends of the fingers and toes but soon extends over the entire palmar surface to the wrists and over the feet to the ankles, where shading into normal tissue begins. The skin, especially over the hands and feet is usually macerated and will peel. Secondary infection may take place if nursing care is not practiced. The extremities are cold, clammy and most times appear to be swollen although workers have been unable to demonstrate edema. There is constant pain in the extremities which is worse at night. Older children complain of pain, tingling, and burning of feet and hands. Hands are rubbed constantly and often must be guarded to prevent actual injury by biting away of tissue from finger tips in the child's effort to obtain relief

from the intense itching and tingling. Usually there are motor symptoms of weakness or paralysis. Photophobia is common. The child hangs his head or buries it in his pillow. Irritability and insomnia are always present. Perspiration is almost always present and most cases drool profusely. There may be loose foul stools and occasionally vomiting. In severe cases teeth fall out, giving one the impression that they are loosened by the child's efforts at grinding his teeth. The grinding of the teeth in these patients appears to be a source of relief. Ulceration of the gums with necrosis of the jaw may develop. There may be shedding of the hair, finger and toe nails. The blood usually, during the fourth week shows a secondary anaemia and most always after the third week a leucocytosis is present. A recovery usually is the rule. The disease lasts several months. The following report is characteristic of four cases seen during the past year.

HISTORY: K. B., a white boy, age two years, whose family history and past history is negative, except for his mother at the present being in an institution with pulmonary and peritoneal tuberculosis. During January, late, and the first week of February 1935, the boy was fretful and drooled constantly. Several physicians gave as many diagnoses for his condition. "Spoiled baby" rated the majority of the votes in diagnoses while "worms" and teething were well into the running. The child succeeded in ridding himself of all lower teeth consisting of four incisors and two cuspid and chewing his lower gums into ribbons. Soon he became unable to sleep, cried constantly, except when biting or rubbing his hands. He found comfort by rubbing his hands or gnawing at them which resulted in bleeding fingers and increasing the already badly inflamed condition of the hands. The traumatized gums bled freely even with the gentlest manipulation. The child was limp, showed no desire to walk or sit alone. The usual temptations for child entertainment were of no interest to him. The only nourishment taken was a small amount of liquid, as milk and soup. Previous to onset of present illness he was an ideal child for development and good behaviour. The teeth were normal in appearance and at the customary age. His walking and talking were or had been usual. His teeth had been lost, singly, and he had never swallowed one. Upon loosening a tooth he would force it from his mouth and say "Now" as though he were greatly relieved to have it out.

His hands were covered to prevent injury from biting. A fine rash over his chest and back was apparent.

The boy was admitted to the hospital with the above complaints. He was admitted for laboratory examination, only. While there his temperature ranged from 98.6 to 100.4. Heart rate ranged from 140 to 160. The blood pressure was 140/100. A fine rash over chest and back was noticeable. Lower gums were very badly lacerated and two pieces of bone could be seen which were from the necrosed jaw. Towels were kept under his chin to absorb saliva. The swelling, discoloration and itching developed in his feet while he was in the hospital. He rubbed his hands constantly when they were not restrained or covered with anesthetic ointment. Reflexes were sluggish. R. B. C. 4,200,000 Hb. 90 W. B. C. 15,000 Polys. 80 per cent Tuberculin test negative. Urine was negative. The child was permitted to return home with instruction as to care.

At the time of this writing two and one-half months after onset of symptoms, he is greatly improved. The hands and feet appear to be normal. The child walks but with a gait similar to that of a tabetic. He enjoys his toys and eats most satisfactorily. He sleeps all night and takes a good nap during the day. The gums are well healed, drooling is greatly reduced and there is an expression of happiness. X-ray negatives reveal presence of all permanent tooth buds. Considerable question as to the developmental conditions of the jaw is held of course.

Treatment consisted of heavy doses of ultra-violet light, brewer's yeast, fresh fruits, phenobarbital and diothane ointment, along with particular attention to oral hygiene.

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Since January 1929 Barbara B. Stimson and Paul C. Swenson, New York (*J.A.M.A.*, May 4, 1935), have seen sixty-six cases of unilateral subluxation of the cervical vertebrae without associated fracture. They stress the composite picture presented by the sixty-six cases; a relatively young adult who seeks relief for stiffness and pain in the neck within twenty-four hours after a mild twist or jerk of the head and who holds his head tilted to one side and cannot bend it to the opposite side. Adequate roentgenograms are necessary for conclusive diagnosis. Treatment is relatively simple after the diagnosis has been established.

PRIMARY BRONCHO-GENIC CARCINOMA*

LAURENCE E. WOOD, M.D.; LAVERNE B. SPAKE, M.D.; WARD W. SUMMERVILLE, M.D., and GALEN M. TICE, M.D.†

Kansas City, Kansas

CLINICAL FEATURES

There is ample evidence in the recent literature to support the claim that there has been an actual increase in primary broncho-genic carcinoma as a clinical and pathological entity. Even in a relatively small clinic it is met with such frequency that in order to avoid errors in diagnosis and treatment it is necessary to keep the possibility of its presence in mind when examining the chest of any adult. At the Bell Memorial Hospital and Clinic this form of malignancy has been seen in sixteen cases since 1923, thirteen of which have occurred since 1930.

The diagnosis was proved at autopsy in thirteen cases and by biopsy in three. Five cases of probable primary bronchogenic carcinoma have been omitted. One we have been unable to follow and the remainder are still under observation, but the diagnosis is not confirmed.

The symptomatology of primary broncho-genic carcinoma is not characteristic but is similar to that of many other forms of pulmonary disease. Occasionally a metastasis may give rise to severe symptoms before the primary growth produces enough symptoms to cause comment by the patient. One of our patients had symptoms of brain tumor which was so diagnosed. It was only after prolonged observation that the primary growth in the lung was found. The brain tumor at autopsy proved to be a metastasis.

The clinical diagnosis therefore is frequently difficult. This is in agreement with Fried,² Rist, Graham and many others. However, Fishberg¹ feels that this condition offers no greater chances of error than any other chronic pulmonary condition. Perhaps this is true if it is possible to keep the patients under observation for prolonged periods. In our group of cases the correct diagnosis was made in nine, suspected in two and missed in five.

The first symptoms depend somewhat upon the position of the tumor. If the preponderance of growth is in the mediastinum either as a re-

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†University of Kansas School of Medicine.

sult of metastasis or of direct extension, the following symptoms and signs appear early, if judged by the small size of the tumor mass. They are produced by involvement of, or pressure upon, some of the important structures of the mediastinum and may appear before the tumor mass can be demonstrated by physical signs or roentgenograms: (1) abductor paralysis of the vocal cords, due to involvement of the recurrent laryngeal nerve, (2) paralysis of the diaphragm as a result of phrenic nerve involvement, (3) dysphagia due to pressure or constriction of the esophagus, (4) distension of the superficial vessels of the head and neck if pressure is being exerted on the superior vena cava, (5) inequality of the pupils if there is sympathetic involvement. These evidences of malignancy may also occur in the more advanced cases. The size of the tumor seems to be about the only gauge of the duration of the disease but it is not dependable.

If the bulk of the tumor growth is in the lung itself the symptoms appear late. These appeared in our group as follows:

Pain	9
Cough	9
Blood	6
Hoarseness	3
Fluid	5
Wt. Loss	11
Pyrexia	4
Dyspnoea	1

Pain and cough were the most frequent complaints. Tumor confined to lung tissue does not cause pain. Therefore, this symptom must be considered late and is produced by pressure, involvement of the intercostal nerves, pleura, spinal column or thrombosis of a vessel. It may be severe. It is usually localized on one side of the chest but may be present about the shoulder and arm or follow the course of a spinal nerve.

Cough is produced by pressure upon or constriction of a bronchus. It is usually non-productive at the onset and may be paroxysmal and at times emetic. Later, after necrosis of the mass and secondary infection has taken place, the sputum becomes abundant and foul.

Bloody sputum is common and usually due to capillary bleeding. However, if the tumor mass undergoes necrosis with resultant cavitation the bleeding may be copious. There are many cases of lethal hemorrhage reported due to advanced lung cancer. In our series six had bloody sputum but only two had definite hemoptysis and in these the hemorrhage was not sufficient to prove alarming.

Pleural effusion in most large series reported is present in about half of the cases. In this group it appeared in five instances and was a result of involvement of the pleura. The fluid may be serous, sero-sanguinous or purulent. It should be remembered that the character of the fluid changes from time to time. A serous fluid at one aspiration may have changed to a sanguinous or purulent fluid at a subsequent aspiration. Bloody fluid aspirated from the pleural cavity should lead one strongly to suspect malignancy. It occurs rarely in tuberculosis but in no other condition in our experience. It is well to pay attention to the cytology of the effusion but too much should not be expected from this examination. If in doing the aspiration the needle encounters resistance such as one would find in passing a needle through cork, the diagnosis of malignancy is almost certain.

Loss of weight, which is such a prominent sign in other forms of visceral malignancy, is not the rule in lung cancer. In fact, with patients resting in bed a gain of weight is frequently noticed during the early course of this disease. Loss of weight occurred in this group in eleven instances, but the loss in each case began shortly before the demise of the patient.

Pyrexia is not a prominent feature and occurs only after secondary infection has taken place. A low-grade fever is the rule if the tumor mass has undergone necrosis. There may be short periods of fever in conjunction with pleurisy or from any inter-current acute infection or plugging of a bronchus.

Massive atelectasis either of one lobe or of the entire lung is a frequent complication of primary broncho-genic carcinoma and the symptoms produced by it are often the first that cause patients to seek medical advice. If a large volume of the lung is involved and the occlusion is brought about suddenly, the symptoms are those of pneumonia. However, the heart and mediastinal contents will invariably be displaced toward the affected side. This does not occur with pneumonia nor is the course typical of pneumonia. After the fever and other acute symptoms subside the affected side remains dull or flat to percussion; the excursion is limited and usually a few medium coarse rales are heard over the affected area. A roentgenogram will confirm the presence of massive atelectasis but frequently will not demonstrate the offending tumor mass. It remains for the bronchoscopist to establish the diagnosis.

Dyspnoea, which is frequently altered by

change in position of the patient, is stressed by some clinicians as a prominent feature of lung cancer. It was a distressing symptom in only one patient in our group.

This neoplasm occurred in fourteen males and two females; in fourteen white persons and two colored persons; in the right lung eight times and in the left lung eight times.

The age distribution in this group is interesting in that a majority of these patients are below what is commonly considered the cancer age:

20-30	1
30-40	5
40-50	6
50-60	2
60-70	1
70-80	1

The malignancy was far advanced in all but two of these patients when they were first seen. Little could be offered by treatment and the disease progressed rapidly to a fatal termination. The duration of life after the first examination was as follows:

Less than 3 months	7
3-6 months	3
6-12 months	4
over 1 year	2

The average duration of symptoms prior to examination was five months.

There are many conditions to consider in differential diagnosis. The common ones are: tuberculosis, metastatic pulmonary lesion, aneurysm, pulmonary abscess, massive atelectasis, reaction of foreign bodies, Vincent's spirochetal infection, Hodgkin's disease. (Other forms of malignancy purposely omitted.) Space does not permit discussion of each of these. Let it suffice to say that if primary broncho-genic carcinoma is present there is always some unusual feature of the case which should exclude the above condition in making a final diagnosis.

BRONCHOSCOPIC DIAGNOSIS OF PRIMARY BRONCHOGENIC CARCINOMA

The diagnosis of carcinoma of the lung can easily and safely be made by the endoscopic removal of a specimen for histological confirmation. We have to deal with a lesion which in some cases is slow to metastasize. It is in these cases that an early diagnosis is essential. It is a deplorable fact that cancer of the lung is usually considered last and in many instances much time is lost because of an erroneous diagnosis.

Jackson reports a number of cures of endo-

bronchial malignant growths, following endobronchial removal. The number of cases in which this should be attempted with no supplemental treatment is relatively few. Success is only possible in the very early stages of the disease. He reports a number of cases in which a malignant growth was diagnosed by bronchoscopic removal of tissue, following which deep x-ray therapy was given, that are alive for as long as four years.

Contra-indication to bronchoscopy may be classified as follows:

1. Bronchoscopy is contra-indicated in all patients until a careful history, a complete physical examination, a roentgen ray examination, and proper laboratory studies have been made.

2. Bronchoscopy is contra-indicated in the presence of an aneurism.

3. This examination should not be done following a recent hemorrhage.

4. Active tuberculosis is a contra-indication.

5. A moribund patient should not be examined.

In Jackson's series of over 400 cases of bronchogenic new growths he only encountered one case of serious hemorrhage following the removal of a specimen for histological examination.

The normal bronchoscopic view of the carina is seen as a thin, sharp, white structure located a little to the left of the median line. The left bronchial orifice appears somewhat as a crescent; the right bronchus which is anatomically a continuation of the trachea is seen continuing into the depths of the right lung. A broad carina may indicate an infiltration of a gland beneath the bifurcation. This may be inflammatory or malignant. With fixation we become suspicious of malignancy.

Often only infiltration of the malignant growth around the bronchus is seen. In some cases a malignant nodule may occlude a bronchus or a fungus like growth may be seen infiltrating into the bronchus. It is in this type that a specimen may be easily obtained.

The bronchoscope is rapidly gaining recognition as a daily adjunct to the scientific practice of medicine. It is only a bronchial speculum and to omit its use in diagnosis is to fail to give the patient the benefit of all that modern medical science has to offer.

ROENTGEN EXAMINATION

Roentgen examination contributes nothing pathognomic in the diagnosis of primary lung tumor. The characteristic picture when the tumor is visualized is a triangular or globular shadow arising usually in the hilar area. This may be so small as to be ignored as of no significance or may involve an entire lobe. The contour may be smooth but is usually irregular. Differential diagnosis offers the same type of problem to the roentgenologist as to the clinician. The presence of healed or even active tuberculosis must not be considered evidence that a hilar mass is not malignant. In many of our cases only the secondary signs were seen. These include atelectasis, bronchiectasis, pleural effusion, empyema, lung abscess and cavitation in a tumor due to central necrosis.

In our experience the most common secondary sign is atelectasis. With the development of obstruction, air is absorbed from alveolar sacs distal to the obstruction; the lung framework collapses and is forced into a small space. The shadow cast by the collapsed lung is as dense as any solid tissue and is often misinterpreted as fluid. The rib spaces are narrowed, the heart and trachea are pulled to the involved side and the diaphragm on this side is elevated. A relatively small tumor may cause massive collapse. An inflammatory process, post-operative mucus plug, or foreign body may cause the same change. If these can be eliminated clinically a tumor must be seriously considered until proved otherwise by bronchoscopy.

Following a complete or partial obstruction an inflammatory process usually develops. Where a foreign body can be excluded in a person of cancer age, a lung abscess or unilateral bronchiectasis should suggest the possibility of a primary bronchogenic tumor. If metastases have involved the pleura the only roentgen finding may be pleural effusion.

In our series the roentgen findings were as follows:

Demonstration of the tumor	9 cases
Basilar fibrosis, bronchiectasis	1 case
Pleural effusion	1 case
Atelectasis	4 cases
Tumor necrosis with cavitation	1 case
Lung abscess	2 cases

PATHOLOGY

Eight cases of the sixteen, in this series, have had the clinical diagnosis verified by autopsies at Bell Memorial Hospital. Five additional cases have also been verified by autopsies in

other hospitals. The three remaining cases were diagnosed by bronchoscopy and biopsy.

Of the thirteen autopsies, permission was granted for examination of the thorax and abdomen in twelve cases. In one case, only the thorax was examined. Two cases included an examination of the head and skeleton.

Of the thirteen autopsies, the predominating cell type of the bronchiogenic carcinomas was as follows: Undifferentiated, including "Oat" cell carcinomas (eight cases), cylindrical cell (three cases), and Squamous cell (two cases).

Eight cases or sixty-one per cent of the total were of the undifferentiated or anaplastic type. All of the cylindrical cell carcinomas were associated with the production of mucin. Both cases of the squamous cell type displayed gross cavitation in the lungs. Histologically, one formed epithelial pearls while the other was less differentiated.

All thirteen cases, at autopsy, presented neoplastic involvement of the regional bronchial lymph nodes.

Eleven of the thirteen cases displayed metastases to other organs in the following order of frequency: (1) adrenals (2) opposite lung (3) brain (4) kidneys (5) liver (6) heart (7) skeleton and (8) pancreas. In addition to the neoplastic involvement of the regional pulmonary hilus lymph nodes, the mediastinal group was involved in five cases and the retroperitoneal in three cases. There was one case which presented a subcutaneous metastasis. The cell type apparently bore no relation to the extent of the metastases except that the majority of the widespread metastases occurred in the undifferentiated types.

Seven cases of the thirteen presented a terminal bronchopneumonia and two additional cases were associated with bronchiectasis.

The eight autopsies from Bell Memorial Hospital were obtained from a total of 1204 autopsies performed over a period of thirteen years. Of the 1204 postmortem examinations, 140 cases or 11.3 per cent presented a carcinoma primary in some organ. Of the 140 carcinomas, 8 or 5.7 per cent were bronchiogenic and 0.67 per cent of all the autopsies contained a carcinoma primary in a bronchus.

The series is small and lacks correlation with such factors as total hospital admissions, sex, age, etc. Perhaps, by coincidence, the figures are in accord with the average incidence given by Weller³ that, approximately five per cent of all carcinomas are bronchiogenic and that, approx-

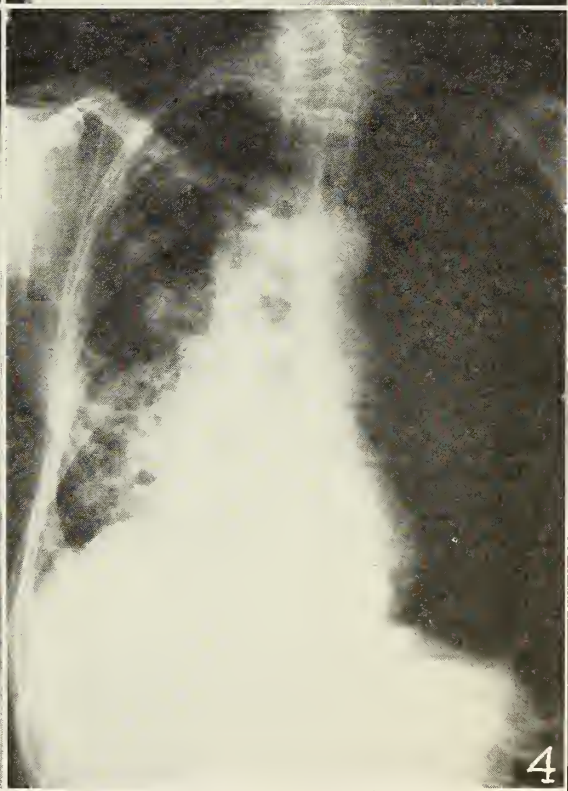
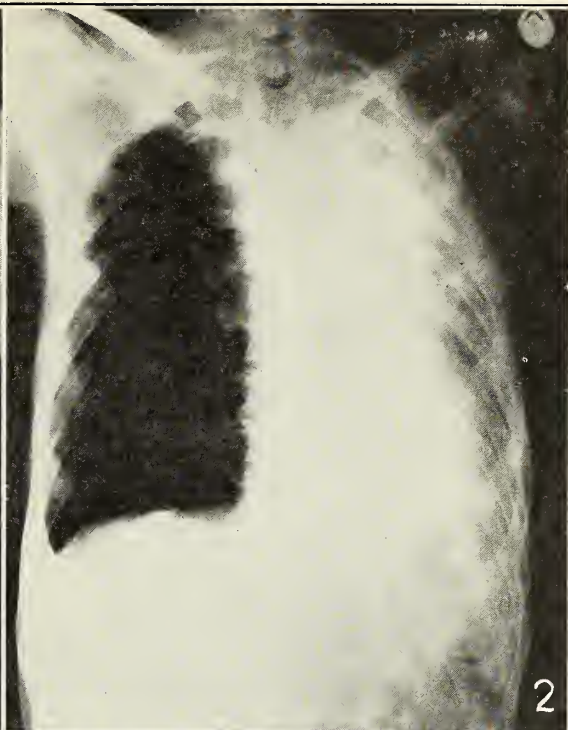
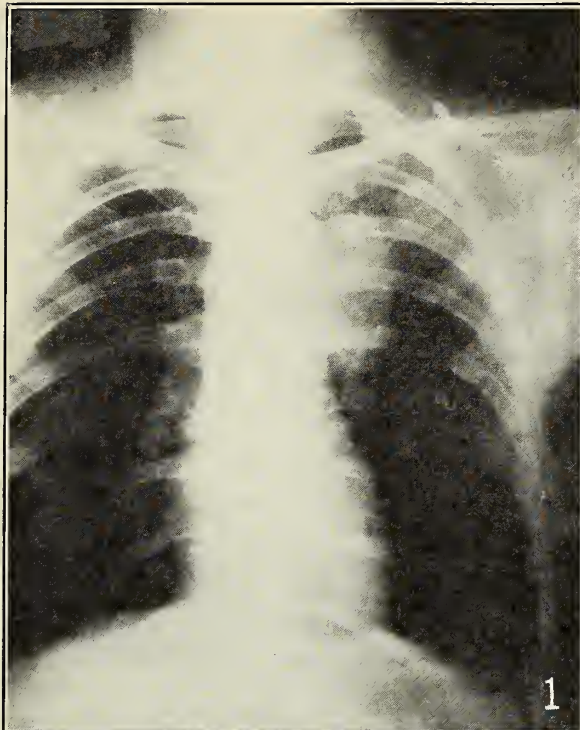


PLATE 1.

F. S.—White male; age 36. A circumscribed tumor mass is seen in the left hilum. Radiographic report suggested possibility of a primary bronchogenic tumor. This was verified at autopsy.

PLATE 2.

This is the same case as plate 1, four months later. The radiographic finding is now that of complete atelectasis of the left lung.

PLATE 3.

H. L.—White male; age 43. Chief complaint was a hard nodule on the sternum. The mass revealed in the left hilum was an unexpected finding. Biopsy report was bronchogenic carcinoma with metastasis to the sternum.

PLATE 4.

C. F.—White male; age 48. Symptoms were those of a lung abscess. X-ray shows partial atelectasis on the right with multiple small abscesses. Autopsy diagnosis bronchogenic carcinoma.

imately 0.5 per cent of all autopsies reveal bronchiogenic carcinomas.

DISCUSSION

Weller³ and Fried⁴ have published comprehensive reviews of this subject.

ETIOLOGY

The etiology of all carcinomas will remain unknown until there is some adequate explanation of two factors. First, that which enables some individuals to undergo cancerization readily and second, that which controls the transformation of a cell from a physiologic into a pathologic malignant status.

The fact that the vast majority of these neoplasms have their origin in the bronchial tree has resulted in additional inconclusive experimentation with substances in the inspired air which may produce chronic irritation.

GROSS MORBID ANATOMY

Apparently ninety per cent of all cases of primary carcinoma of the lung occur in the hilum and are bronchiogenic according to Weller.³ A frequent site is in the main bronchus near the mouth of the first lobular branch.

These primary neoplasms, near the hilum, may extend endobronchially, peribronchially or both. In some instances, involvement of the mediastinal structures is most evident. In other cases, large portions of one or more lobes are infiltrated with the production of a neoplastic pleurisy. The regional bronchial lymph nodes are involved early in most cases. The abundant lymphatic and blood supply of the lungs favors early metastases. Associated pulmonary infections may, however, produce death before metastases are so well established. The frequency of metastases in the larger series of cases follows approximately this order: (1) liver (2) skeleton (3) lungs (4) brain (5) kidneys (6) suprarenals (7) pancreas (8) thyroid (9) heart and (10) intestines.

HISTOGENESIS

Theoretically, there are five types of epithelium from which a carcinoma of the lung may arise. The bronchial epithelium is stratified and is composed of columnar cells, goblet cells and basal cells. The other presumptive sources are the submucous glands and the alveolar epithelium.

The bronchial epithelium represents the source of the majority of all carcinomas of the lungs. Fried⁴ has shown that, of the cells comprising the bronchial epithelium, only the basal

cells proliferate and are capable of differentiating either physiologically into columnar epithelium or pathologically into squamous cells. This concept is of value because it furnishes an explanation of the formation of squamous cells in an organ in which such cells are foreign.

One type of neoplasm, regarded for years as a sarcoma of the mediastinum with extension to the lungs is now regarded as a small or "oat" cell carcinoma primary in the bronchial epithelium. Barnard⁵ and Karsner and Saphir⁶ have published studies of these tumors. Maxwell⁷ has advanced the concept that these small cell carcinomas originate in the basal cells.

CLASSIFICATION

Pathological classifications are based either upon the gross or histological appearance of the neoplasm.

Menne, Bisailon and Robertson⁸ favor the gross type and recognize either a hilar nodular or a diffuse necrotic group. Some authors have noted the following gross features which are indicative of certain cell groups: (1) early extensive involvement of the mediastinal lymph nodes in the small or "oat" cell types, (2) pulmonary cavitation in the squamous cell varieties and (3) production of mucin in some of the cylindric cell forms.

Other authors favor some form of histological classification such as that given by Weller.³ This includes undifferentiated cell carcinoma, squamous cell carcinoma and cylindric cell carcinoma. The undifferentiated cell type includes the small or "oat" cell variety. The squamous cell group includes both keratinizing and non-keratinizing types. The cylindric cell forms may show a definite adenomatous architecture with or without the production of mucin.

The inability to invariably predict, from the gross appearance, the probable histological picture with the fact that cells may vary so much in different portions of the same tumor, indicates that no classification is entirely satisfactory. There are several cases, however, in which some histological classification based upon the predominating cell type is apparently best.

TREATMENT

After reviewing the experience of others and after studying our own cases we must conclude that there is no satisfactory treatment for primary lung tumor. As in the case of most deep seated epidermoid carcinomas referred to the surgeon or radiologist for treatment, we hope for a small percentage of cures. Until earlier

diagnosis can be made we must hope for a decrease in morbidity and not many cures.

Surgical removal of a primary lung tumor is the ideal treatment and has been accomplished by a limited number of men. Because of the usual location of the tumor close to the hilum surgery is not applicable to the average case. Most surgeons agree that the operable group is that group in which the tumor is confined to one lobe and is located far enough peripherally that sufficient lung tissue may be secured to close the main bronchus. Evidence of metastases is of course a contraindication to surgery. In our cases only three showed no evidence clinically or radiographically of metastases and in these the tumor was near the hilum.

Dr. Evarts Graham⁹ is one of the most ardent advocates of removal of the lung for this condition. Up to October 1933 he was able to find six reported cases in which a limited portion of the lung was removed for primary bronchiogenic carcinoma, in which the patient has survived the operation for a year or more. To this series he adds a case in which the entire left lung was removed and at the time of his report the patient had been alive six months. Lobectomy is attended with a mortality of from ten per cent to fifty-five per cent as reported by Roberts and Nelson,¹⁰ Coryllos¹¹ and Lilienthal.¹² Certainly the total removal of a lung would be attended with even a higher mortality. We feel that Dr. Graham is too optimistic when he says, "it seems to me we are justified in advising it (Pulmonectomy) if by so doing we can save only fifteen or twenty per cent of those who have this dreaded condition."

Irradiation, altho we are treating a tumor not classed as a radiosensitive tumor is not a useless procedure. We are not able to promise a cure but we can predict with a fair degree of certainty that life will be prolonged, pain and cough will be decreased, and as the obstruction decreases the infection will become less. We have had no experience with the use of radium in any form in treating this tumor. Deep x-ray therapy has been used on six patients of the series. We are not including in the series of those treated, one case now alive four years since treatment, in which the pathologists reported the tumor probably malignant but could not make a positive statement. All of the patients treated, having a positive diagnosis are dead. The average duration of life was six and one-half months. One patient lived one year. Two showed evi-

dence of reduction of the tumor roentgenographically; five were benefitted clinically; two gained weight; one showed no evidence of improvement. Of the nine not treated the average duration of life was a little less than three months. Among others reporting beneficial results from deep x-ray therapy are Vinson and Leddy,¹³ Kernan,¹⁴ Baum,¹⁵ and Ormerond.¹⁶

We are convinced that we are confronted with the same problem in the treatment of this malignancy as in the treatment of carcinoma of the stomach or any other deep seated tumor, the problem of early diagnosis. All concerned with making the diagnosis must share the responsibility. The clinician must be more alert in evaluating symptoms and signs. He must keep in mind the fact that symptoms not related to the chest may be due to distant metastases from a bronchogenic tumor not demonstrated clinically. The roentgenologist must not pass by an unusual increase in hilar shadows especially if circumscribed and unilateral without considering the possibility of a tumor. No unilateral unexplained bronchiectasis, atelectasis or lung abscess should be described without suggesting the possibility of a primary lung tumor. The bronchoscopist should be consulted more frequently. He must learn to evaluate secondary signs even though an endobronchial tumor is not seen. The pathologist has his problems in differentiating true malignant cells from inflammatory cells.

Until an early diagnosis can be made we again say that we feel there is no satisfactory treatment for primary bronchogenic carcinoma. We feel that irradiation is of definite value in making the patient more comfortable and that life may be prolonged in some.

SUMMARY

1. Sixteen cases of primary bronchogenic carcinoma are presented. The correct ante mortem diagnosis was made in nine, suspected in two, and missed in five.

2. The ultimate ante mortem diagnosis depends on the specimen secured by the bronchoscopist. Bronchoscopy is a safe diagnostic procedure.

3. Roentgen examination may reveal the primary tumor but more often only suggestive secondary signs are seen.

4. In this series all thirteen cases in which autopsies were performed displayed neoplastic involvement of the regional bronchial lymph nodes and eleven presented metastases in other

organs. Nine of the cases showed associated pulmonary infection.

5. All cases in this series were too far advanced to be considered surgical. Six of these cases received x-ray therapy. All of the series with a positive diagnosis of carcinoma are dead. We feel the evidence in this small series shows a definite temporary improvement following roentgen therapy.

6. There is no satisfactory treatment for primary carcinoma of the bronchus in the advanced stage in which the condition is at present seen.

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EPILEPSY

WILLIAM S. LINDSAY, M.D.

Topeka, Kansas

This, one of the oldest recognized diseases of the nervous system is still poorly understood as to etiology and modus operandi of the un-governed discharge of motor impulse. The theory that vaso-motor disturbance causing a temporary anemia of cerebral circulation, was the exciting cause, seems untenable from recent technical advances along this line.

It is not my purpose to discuss dietary or

fluid intake methods of treatment, but merely to record some personal experience in two of a few cases during the past several years.

What I have done has not been on any theoretical or planned course but resulted from a severe case of Status Epilepticus with acute maniacal excitement which seemed to warrant heroic treatment.

We began with inhalation of chloroform, continuing allonal to quiet the excitement, with one and a half grs. phenobarbital three to four hours apart as indicated by slight twitching of palpebral muscles. This required diligent watching for a night and day nurse for four weeks, with the patient in bed, from May 25, 1928, until late in June. The tablets were given three times a day one month longer and, gradually reducing medication, until in September, twice a day and since October, 1928, until this date one tablet at bed time. I have no precedent or rule to guide discontinuance of medicine. There has been no seizure since giving the inhalation of chloroform in 1928, and the patient has been in active service these seven years.

Six years previous to this treatment I had seen this patient, got a negative Wassermann report on the spinal fluid, a history of several years seizures at irregular intervals, prescribed luminal in the perfunctory way he used to do without a definite program. From that time until the treatment in 1928 the patient had various courses of diet and was under the care of a psychoanalyst when the violent seizure occurred.

Another case was one of petit mal in a boy who had light attacks following scarlet fever as a child.

These seizures were so light that the boy went to school and got on fairly well until 1921 when it was apparent he could not get on and required a private teacher.

After case No. 1 seemed so well I began a course of close attention to the boy and with sufficient pheno barbital to stop the attacks and the diligence of the mother he was able to resume school work and has had no seizure since January 14, 1930. I present these cases to suggest that we should consider a case of epilepsy as an acute case and endeavor to stop the spells. The boy still takes one tablet at bed time and is now over six feet high and quite normal.

EDITORIAL

THE PRESIDENT-ELECT

The House of Delegates is to be congratulated upon its choice of Dr. Howard L. Snyder, Winfield, as President of the Society for 1936. Dr. Snyder is a man of wide experience and recognized ability. He is well known throughout the state, and particularly to the medical profession for his many accomplishments. He has served the Society in many capacities during his thirty-one years of continuous membership, and at the time of his election was Vice-President, a member of the Cancer Committee, and a member of the Executive Secretary Committee. He is qualified to carry on past high standards of Society leadership, and to guide its functions through a year that will undoubtedly be filled with hazards and uncertainty.



Dr. H. L. Snyder

Dr. Snyder was born in Woodford County, Illinois, on October 10, 1878. His early years were spent on his father's farm in Illinois, and he attended country schools and high school at Washburn, Illinois. Subsequently he became a student at Illinois Wesleyan University in Bloomington, and at the age of 17 years he and his family moved to Kansas where he com-

pleted a pre-medical education at Southwestern College in Winfield. His first year of medicine was at University Medical College in Kansas City, Missouri, and his last three years were at Jefferson Medical College in Philadelphia. He was made a member of Alpha Omega Alpha in 1903, and graduated from Jefferson Medical College in 1904. Following graduation he located at Winfield, where he has continued his practice.

Dr. Snyder is a member of Cowley County Medical Society, the American Medical Association, the American College of Surgeons, the Academy of Medicine of Kansas City, and of the staffs of St. Mary's Hospital and William Newton Memorial Hospital in Newton.

He is a member and participant in several state and national lay organizations of importance. He has been active in civic affairs, having served as mayor of Winfield in 1921 and 1924, as a member of the city council for two years, as a member of the city commission for four years, and as president of the Winfield Chamber of Commerce for two years.

Dr. Snyder is assured of the confidence and cooperation of every member as evidenced by his unanimous nomination.

THE 77TH ANNUAL MEETING

Saline County Medical Society may justifiably take pride in its accomplishment of probably one of the best annual meetings the Kansas Medical Society has ever held.

Subjects and discussions of the program were timely, varied in general and specialized interest, and ably presented by excellent speakers. Handling of the section meetings and luncheons was efficient and the attendance was exceptional.

General registration of 530, the highest ever recorded for visiting physicians, speaks for itself, and the record established by the banquet with 480 in attendance, seems remarkable when economic and other conditions are considered.

The new officers were unanimously elected

without opposition which seemingly bespeaks the confidence placed in their ability. Dr. H. L. Snyder, Winfield, was named as President-Elect to become President on January 1, 1936. Dr. L. D. Johnson, Chanute, takes Dr. Snyder's place as Vice President. Dr. Geo. M. Gray, Kansas City, was elected Treasurer for his twelfth year. Dr. H. L. Chambers, Lawrence, was appointed Secretary for a three year term.

Four new Councilors were elected. Dr. J. L. Lattimore, Topeka, becomes Councilor for district number four; Dr. Marion Trueheart, Sterling, for district number five; Dr. Walter Stephenson, Norton, for district number nine; Dr. A. C. Armitage, Kinsley, for district number eleven. They respectively succeed Dr. O. P. Davis, Topeka; Dr. J. T. Axtell, Newton; Dr. H. O. Hardesty, Jennings, and Dr. C. H. Ewing, Larned, whose terms expired, and who were ineligible for re-election under the Constitutional Amendment adopted last year.

Dr. O. P. Davis, Topeka, was retained as chairman of the Medical Defense Board despite his contention that he could not be legally elected. This difficulty arose by reason the above amendment, providing no Councilor may serve for more than two consecutive terms affected Dr. Davis's eligibility as a Councilor, and as another portion of the present constitution specified members of the board shall be members of the Council. The Council, however, felt that Dr. Davis's years of experience could not be easily replaced, and in his absence used good parliamentary procedure to avert that happening. No successor was elected and Dr. Davis was requested to continue under another provision stating present officials shall continue in office until their successors are duly elected. Plans were made for correction of this difficulty in constitutional changes to be made in 1936.

The reports of the Secretary and Treasurer reflected very satisfactory conditions. The paid membership as of May 1, 1935, stood at 1285 as against 1171 for the same period last year. Total balance on hand at the date of the meeting was \$21,188.95 as compared with \$19,-

847.50 of last year. Dues were again established at \$10.00 per member, for 1936, and final adoption was made of an amendment permitting continuation of the procedure utilized this year for applying \$2.00 per member from present reserves of the Medical Defense Board.

The committee reports indicated very active and efficient work for the past year and several new projects were approved. A great deal of interest was evidenced in the report of the Medical Economics Committee whose efforts seemed unusual for the brief term of its existence. The Cancer, Public Health Education, the Legislative committees likewise outlined and secured approval for future contemplated programs.

Scientific Exhibits were said to be the best in the history of the Society. In addition to varied excellent exhibits from members, Dr. Thomas Hull, head of the American Medical Association Bureau of Scientific Exhibits attended the meeting and presented an elaborate scientific display sponsored by that organization.

The American Optical Co., A. S. Aloe Co., Electro-Therapy-Rose Mfg., H. G. Fischer & Co., General Electric X-Ray Corporation, Gerber Products, Jo-Mar Ice Cream, Houghton Bakery, Lee Mercantile, Kelly-Koett Mfg. Co., McIntosh Electrical Co., Mead Johnson & Co., Medical Protective Co., Philip Morris & Co., Quinton-Duffens, Remington-Rand, Riggs Optical Co., and W. A. Rosenthal X-Ray Co. assisted in the presentation of commercial exhibits. Almost all of the exhibitors stated that, from their viewpoint, it was the best meeting Kansas had ever held. Three definitely reserved space for next year, and several indicated their intention to become permanent exhibitors.

The public meeting, introduced this year for the first time, presented Dr. George Crile, Cleveland, Ohio, as guest speaker. It was fairly well attended, and was deemed worthy of continuation.

Sporting events appearing on the first day were well received. The trap tournament, a new event, was permanently adopted by a

merger at the annual banquet of the Kansas Medical Golfing Association. The new organization will be designated as the Kansas Medical Golfing and Trap Association, and Dr. F. L. Loveland, Topeka, and Dr. L. V. Dawson, Ottawa, will be president and secretary for the ensuing year.

Registration report of the Woman's Auxiliary totaled 105, and wives of Saline County physicians provided extensive entertainment. New officers for next year included Mrs. Milton O. Nyberg, Wichita, president; Mrs. L. B. Gloyne, Kansas City, president-elect; Mrs. W. Y. Herrick, Wakeeney, first vice president; Mrs. N. E. Melencamp, Dodge City, second vice president; Mrs. W. H. Young, Fredonia, recording secretary; Mrs. E. F. Clark, Belle Plaine, treasurer.

An excellent presidential address by Dr. J. F. Hassig, and detailed proceedings are to be reproduced in this and succeeding issues of the Journal.

Invitations for the next annual meeting were received from Independence and Topeka. Topeka was chosen and the dates of May 6, 7, and 8 were selected by the House of Delegates.

AUTHORS ENGRAVINGS

The Journal has for some years operated under a policy whereby the cost of engravings utilized in original articles was defrayed by the authors of those articles.

The Editorial Board believes that this not only places a penalty on acquisition and description of good material, but that it also occasions an inequitable burden upon members courteous enough to forward manuscripts for publication.

Thus a new policy became effective with the May issue under which all engravings shall be made at the expense of the Journal. It is hoped that after sufficient experience is obtained on this plan a specified number of free engravings can be offered for every article published. In the meantime an effort will be made to maintain this cost within Journal income by offering as many as possible in each issue.

MEDICAL SCHOOL CLINIC

GASTRO-INTESTINAL ALLERGY*

Co-existent with Organic Disease

ORVAL R. WITHERS, M.D.

Kansas City, Missouri

Gastro-intestinal allergy includes all hypersensitive reactions occurring within the alimentary tract. These reactions may result immediately upon direct contact of the allergen with the sensitized tissues, or they may be delayed, due to the digestion and absorption of foods. The pathologic physiology is that of edema and anemia of the mucous membrane, spasm of the smooth muscle, or a combination of these.

SYMPTOMATOLOGY

There is no characteristic symptom picture of gastro-intestinal allergy, but abdominal pain, nausea, and diarrhea are most frequently observed. However, it may simulate any organic or functional lesion of the alimentary tract. The allergic reaction may occur at any level between the lips and the anus, which potentiates a great variety of symptoms of varying degrees of intensity.

Allergy may be responsible for manifestations such as canker sores of the mouth or lips, stomatitis, angioneurotic edema of the lips, tongue, throat, epiglottis, oesophagus, stomach, or the intestines. Symptoms as epigastric fullness, nausea, vomiting, and less often pruritus ani and proctitis may be due to sensitization. Likewise a syndrome simulating pylorospasm, acute or chronic biliary tract disease, acute appendicitis (also so-called chronic appendicitis) and mucous colitis or an irritable bowel, may be produced.

The great variation in symptoms makes a description of them very difficult, but for purposes of classification, they will be listed as "acute" and "chronic." One of the characteristics of gastro-intestinal allergy is the chronicity of attacks even of the acute type, thus producing a clinical picture of chronic symptoms with acute exacerbations.

I. Acute Anaphylactic Shock, or "La Grande Anaphylaxie Alimentaire," as described by the French, is the most violent and dangerous allergic reaction of the gastro-intes-

*From the Allergy Clinic of the Department of Medicine, University of Kansas School of Medicine, Kansas City, Kansas.

tinal tract and, fortunately, seldom occurs. It follows the ingestion of certain foods and is characterized by nausea, vomiting, diarrhea, excruciating abdominal pain, circulatory collapse and sometimes death.

II. Acute Gastro-intestinal Allergy: Abdominal pain might be designated as the chief symptom of so-called acute gastro-intestinal allergy. The acute pain may be generalized over the entire abdomen, or it may be localized in either quadrant or the epigastrium. In some, it appears soon after the ingestion of the food and continues from two to six hours; in others, it appears later and may continue for some time. Nausea, vomiting or diarrhea may or may not be associated with the pain.

The patient often suspects the causative food when symptoms follow shortly after ingestion and seldom associates food as being the causative agent when there is a delay of hours between ingestion and the reaction. It is this type which is liable to be confused with acute organic lesions, such as perforating peptic ulcer, biliary or renal colic, appendicitis, or intestinal obstruction.

III. Chronic Gastro-intestinal Allergy: The chronic reactions are more frequent, usually milder and often more difficult to recognize than the acute attacks. Indigestion is a complaint of many who present themselves for treatment of other allergic conditions, especially those of the skin, perennial hay fever, or asthma. By the term "indigestion," the patient implies that he may suffer from one or more of the following: pyrosis, epigastric fullness or bloating, nausea, vomiting or mucous colitis, and that it has been present in this form for years. Some have suspected or actually discovered the offending foods and, by avoiding them, have little or no difficulty. Chronic gastro-intestinal allergy must be differentiated from organic and functional lesions of the stomach, gall bladder, appendix and colon.

DIAGNOSIS

The diagnosis of gastro-intestinal allergy is one of the most detailed problems in clinical medicine. As in other diagnostic problems, it should be approached in a systematic and thorough manner, using clinical and laboratory aids to establish the etiology.

I. History: The patients frequently have gastro-intestinal allergy only, but they may have other forms of sensitiveness or a history of such conditions in the past. Blood relatives may or may not show manifestations of other

known or suspected allergic conditions.

Many patients know that certain foods are responsible for severe gastro-intestinal symptoms and avoid them, but often they do not suspect the same food when taken in different form. For example: A patient who always avoided fresh pork because of the resulting diarrhea and abdominal pain, did not suspect lard and bacon as the cause of symptoms.

Frequently, those suffering from gastro-intestinal allergy experience relief or a more speedy recovery from an attack if they provoke vomiting, while others are relieved by the use of an enema or a cathartic even though constipation is not a factor.

Allergy should always be considered in patients who have had frequent examinations with negative or unimportant findings. Many of these cases have had one or more abdominal operations.

II. Laboratory: (a) Skin Tests: Some still regard skin tests as the simplest and surest procedure in establishing a diagnosis of the allergic state, as well as the specific etiologic factors. However, positive skin reactions are often demonstrated to foods, which fail to cause symptoms on clinical trial. Positive dermal reactions may indicate past, present or future clinical sensitizations. Further, foods may precipitate symptoms when ingested and fail to produce a positive skin reaction. This may be due to the lack of sufficient concentration of antibodies in the skin to react with the test material, or the symptoms may be due to split products of the food brought about by cooking or digestion. Skin testing should be used routinely, even if only a small per cent of the tests are actually proven to be true, as they may lead to or actually reveal one or more of the etiological factors. (b) Cytology: The white count may vary from a leukopenia to a leukocytosis and an eosinophilia is sometimes present during an attack. A count made early in an attack sometimes shows a leukopenia. Eosinophiles may be demonstrated in the mucus from an allergic bowel. (c) The Roentgenological Examination: In the absence of organic or functional diseases, the x-ray study may present various unexplainable spasms or disturbances of motility, usually hypermotility, which are present only during an attack.

III. Clinical Trial: The diagnosis may be definitely established by the reproduction of the original symptoms at will by introducing the suspected factors (foods or drugs).

In view of the above mentioned points, the following case is of interest:

CASE HISTORY

I. Present History: Mrs. M. G., aged forty-six, experienced severe uterine hemorrhage, which had been preceded by slight irregular bleeding for a period of two weeks. She was taken to the hospital, where her condition was diagnosed as carcinoma of the cervix.

Following a transfusion and the application of radium, she was given a very liberal diet. It contained many foods the patient liked but of which she had deprived herself for many years. Hives, headaches, bloating, diarrhea, and vomiting appeared immediately and became so severe and persistent that she was forced to remain in the hospital for several months. Hot flashes, nervousness, insomnia and a different type of headache (occipitocervical) developed a short time after the application of radium. The basal metabolic rate was minus twenty-five per cent.

Intravenous administration of whole ovarian substances ameliorated the hot flashes and completely controlled the occipitocervical headaches. Thyroid given by mouth, improved the "tiredness" of which she had complained, but it did not benefit the dry, rough skin which had been getting gradually worse the past ten years. Itching and dryness had greatly increased during the past three years.

Although the patient's appetite was good and she ate liberal amounts of food, there was a loss of sixty pounds over a period of five months, presumably due to the severe diarrhea and vomiting.

Since all the therapeutic measures had failed to relieve these symptoms and the patient was growing weaker and much discouraged, a surgical consultation was held. It was decided that partial intestinal obstruction, due to adhesions from a former gall-bladder operation might be the cause of the abdominal symptoms. An exploratory laparotomy revealed a few fine adhesions scattered throughout the abdomen, especially between the liver margin and the omentum, but there was no obstruction. The wound healed nicely, and the patient was greatly improved, but when she was given a regular diet again, the original symptoms returned.

Because of the associated urticaria and headaches, gastro-intestinal allergy was considered after her first stay in the hospital, but she was only intensively studied with this in view after

the exploratory operation failed to explain her symptoms.

The past medical history of the patient revealed that at twelve years of age, she had vomiting spells following the ingestion of milk. Since milk did not agree with her, and because of her natural dislike for it, she avoided this food as much as possible.

Hives and frequent atypical colds were present at an early age, and have persisted until the present time. The patient has had headaches as long as she can remember. They occur at irregular intervals, four to six times a month, and have been milder the past few years. They were the most severe between the fourteenth and twenty-second years of her life.

For years she has had irregular attacks of nausea, vomiting and bloating. The patient knew that apple would cause these symptoms and it also caused such symptoms in her mother. As a child she maintained her normal growth and weight by taking only the foods that caused her no discomfort.

Eight years ago, the attacks of nausea and vomiting, which had been present since childhood, increased in severity and frequency. At this same time, she suffered with recurrent attacks of dull pain in the right upper quadrant. Also, a rather sharp pain was present in this same area and it often radiated to the right shoulder blade.

Four years ago, a chronically infected gall-bladder with stones was removed. Following this operation, the patient was much improved, but the original symptoms of abdominal distention, nausea, vomiting and diarrhea continued as before, and the hives and headaches grew worse. She was re-examined, including x-ray, and told that no organic trouble could be detected.

A review of the family history showed allergy to exist in the antecedents and collaterals, in that a brother, as well as two paternal uncles and a maternal aunt, had bronchial asthma. A twin sister could produce urticaria by the ingestion of salmon. Another sister had hives, a chronically congested nose, and headaches, which have persisted since childhood. For the past ten years, the patient's daughter has had a congested nose with frequent sneezing spells. These symptoms are greatly benefitted by the omission of pork, strawberries and raw tomatoes.

II. Physical Examination: The essential findings were tenderness over the entire ab-

domen, more definite over the transverse and descending colon, and a very definite loss of weight.

III. Laboratory Examination: Repeated urine examinations were negative. The blood chemistry was within normal limits. Repeated blood counts were normal except for a slight anemia. Stool examinations were negative for parasites, ova, pus and blood. (a) The x-ray of the gastro-intestinal tract was interpreted as a deranged motor function, rather than that of organic disease. (b) Skin tests showed a definite skin reaction to nine foods and a questionable reaction to eleven foods. The elimination of these foods resulted in a noticeable decrease of nausea and vomiting as well as the hives.

IV. Clinical Trial: After several months of observation, with the aid of a food diary, the following foods and drugs were found to be responsible for the symptoms: Milk and its products would usually cause immediate nausea and often vomiting, but if it were delayed, hives would appear within a few minutes and, later, diarrhea. Eggs would cause nausea and vomiting within twenty minutes or, if vomiting were delayed, gas and diarrhea were the result. Orange juice caused bloating with considerable distention, followed by diarrhea within an hour after ingestion. Apple also resulted in nausea, gas and bloating. Cucumber caused vomiting almost immediately. Wheat caused a generalized itching which began 48 hours after ingestion. After using this food for some time, the skin became dry and rough and pruritus was quite definite. Pruritus ani was also due to wheat. Coffee produced nasal congestion and rhinorrhea within 10 minutes after it was taken, which lasted several hours. Pineapple invariably produced a headache the day after ingestion. Pork eaten several days induced urticaria. The ingestion of beets was followed by urticaria. Codeine produced angioneurotic edema of the throat, while quinine and morphine resulted in urticaria, nausea and vomiting.

By eliminating the above foods and drugs the patient remained very comfortable.

SUMMARY

Within recent years, a great deal has been written concerning allergy of the respiratory tract, particularly of hay fever and bronchial asthma, but only recently has there been reference to the equally important and definite manifestations of hypersensitiveness in the ali-

mentary tract.

Gastro-intestinal allergy is not uncommon. The chronic is more prevalent than the acute type. It is usually not difficult to establish a diagnosis of allergy, as hypersensitive reactions in the digestive tract rarely simulate any disease so closely that differentiation is impossible.

A common error is the failure to consider allergy as a possible factor in making a diagnosis of atypical acute or chronic gastro-intestinal disorders.

As was shown in this case, allergy may co-exist with organic disease.

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LABORATORY

THE ROLE OF THE LABORATORY IN OBSTETRICS

L. R. PYLE, M.D.

Topeka, Kansas

In the past ten years there has been displayed among the obstetricians and physiological chemists a marked interest in the physical and chemical changes occurring in the body of woman during a normal pregnancy and the variations that may be present or associated with the toxemias of pregnancy in order to develop a more complete understanding of the etiology and a more workable classification of the toxemias, so that the treatment of such may be placed upon a more rational basis with an improvement of the mortality rate and a lessening of the residual and permanent damage to the female organism.

There are certain laboratory procedures that should be routine with every doctor that expects to confine a pregnant woman. She should have a blood Wassermann, a determination of her hemoglobin and an erythrocyte count as early in pregnancy as possible and a check of the hemoglobin during the last trimester of pregnancy. She should also have routine urine examinations at intervals frequent enough to develop an insight as to her progress along normal or abnormal lines, and to correlate such

with subjective symptoms, blood pressure readings and weight changes.

The changes which take place in the female organism during a normal pregnancy are: an increase in the output of the heart of about thirty-five per cent; an increase of her basal metabolic rate of about fifteen per cent; an increase of from twenty to thirty per cent in her blood plasma volume, twenty per cent in total cell volume, ten per cent in total hemoglobin but a decrease of about fifteen per cent in percentage hemoglobin; a disturbance in her nitrogen balance, this being negative during the first half and positive during the second half of pregnancy; a marked increase in the lipoids in the blood with a marked tendency to acetoneuria; and a reduction of the total base in her blood of about twenty-five per cent. In addition, Dieckmann,¹ in attempting to explain the physiological edema of pregnancy believes that there is not enough change in the serum protein fractions to account for the edema, but that the changes in the osmotic pressure, surface tension and base binding power of the proteins seem to indicate that there are intrinsic changes in the proteins themselves.

In the classification of toxemias for the last half of pregnancy, laboratory examinations seem to indicate that preeclampsia and eclampsia are the same disease, differing only in the severity of the lesion, that the primary lesion is probably liver and that any degenerative changes in the kidney are secondary to the disease, in contradistinction the toxemias that are based upon previous kidney degeneration and are classified as the low reserve kidney, chronic or subacute nephritis or the essential hypertention group. H. J. Stander,² upon repeated examinations of 148 preeclamptic and eclamptic patients found that the non-protein nitrogen, urea nitrogen and blood sugar remained within normal limits except late in the disease (secondary renal involvement) but that there was an increase in the uric acid content of the blood indicating liver involvement. He came to the conclusion that the uric acid content of the blood may be used as a fairly safe criterion of the severity of the disease, both as to prognosis and efficacy of treatment. In the group of patients where there is a history of kidney involvement, whether it be an attack of acute nephritis, renal impairment associated with a previous pregnancy, or similar findings in the pregnancy at hand, the laboratory examination required are repeated studies upon

the urine from the standpoint of concentration, total output as compared to total fluid intake, and the counts of formed bodies, while the blood is repeatedly studied from the standpoint of retention of the products of nitrogen metabolism. Whether the toxemia be eclamptic or nephritic there is apt to be an associated acidosis because of the reduction of the total base of the blood, therefore the CO₂ combining power of the blood is a very important test in determining the reaction of the body and whether active alkaline therapy must be introduced.

In some of the rarer conditions of pregnancy such as acute yellow atrophy of the liver complete early blood chemistry determinations including uric acid, blood sugar and the Van den Bergh reactions are of utmost importance in arriving at an early diagnosis of the underlying condition so that appropriate treatment may be instituted immediately.

Following any severe type of toxemia of pregnancy detailed studies of the possibility of permanent hepatic and renal damage should be made to determine the prognosis of the patient as to future pregnancies and her general mode of living. Therefore the laboratory plays an important role in obstetrics, not only in the conditions discussed above but in many others that are associated with or complicate a pregnancy. It is, in many cases the key to the lowering of mortality rates and the lessening of residual and permanent damage in the 100,000 women in the United States who suffer each year from some type of toxemia of pregnancy.

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Clarence E. Gardner Jr., and Deryl Hart, Durham, N. C. (*J.A.M.A.*, May 18, 1935), treated a case of cyst of the duodenum successfully by anastomosis with the intestinal tract. Six cases of this rare condition have been collected from the literature, with a mortality of 100 per cent. Three of the collected cases were treated surgically, two by external drainage. The operation of choice seems to be permanent internal drainage into the intestinal tract. There are two methods of accomplishing this, one having been used in the case reported. No case has been diagnosed before operation or necropsy. The symptoms are those of duodenal obstruction, with a palpable mass in the right upper part of the abdomen. An embryonic diverticulum is the probable origin of the cyst. Cholecholeliths probably have a similar origin from the persistence of diverticula that occur along the bile ducts during embryonic life.

OFFICIAL PROCEEDINGS

77th Annual Meeting

The House of Delegates met in regular session at 8:00 p. m. on May 8, in the auditorium of the Masonic Temple. Dr. J. F. Hassig, president, served as presiding officer.

Minutes of the last meeting were approved as printed in the Journal.

Upon suggestion of the President, and approval by acclamation, official roll call of delegates was deferred until the second meeting of the House of Delegates.

Dr. H. L. Chambers, Secretary, presented the following report:

Mr. President, Councilors and Delegates:

You doubtless recall that at the Wichita meeting in May, 1934, we took the decisive step toward the employment and installation of a full time secretary. In order to save time in getting the new plans into operation, it was necessary to run the business more or less on general principles and without in some cases any definite direction from or by the Constitution and By-Laws. Not knowing what the special committee on revision of Constitution and By-Laws would recommend, we could not even follow with precision the new regulations which are to come up for your approval at this session. The factual situation was this: Dr. Hassig had resigned but had not turned over the records and forms because he had not had a closing audit. I had been elected to serve out his unexpired term, but did not have the records and forms, and Munns was in process of coming up over the horizon with his "world so new and all."

Practically, this muddle was not so bad as it sounds, for by getting together in an effort to carry out the spirit of the situation rather than the letter of the law we got the work done, and we believe done satisfactorily—even creditably.

I am aware that a cantankerous legalist might have been a great embarrassment but none rose to plague us and I hope none will appear now.

I append the statement from Mr. Munns which speaks for itself:

To Dr. H. L. Chambers, Secretary, The Kansas Medical Society:

"The Secretary received constructive possession of all secretarial documents and records of the Society on November 5, 1934, at which time Dr. J. F. Hassig, former secretary, trans-

ferred these belongings to the Executive Secretary Office in Topeka.

"An audit by J. S. McDonald and Company, certified public accountants of Kansas City, Kansas, is attached herewith as evidence of completion and balance of Dr. Hassig's accounts under date of November 5, 1934. Final transfer of funds in the amount of \$1316.00 to Dr. Geo. M. Gray, Treasurer, is likewise certified therein under date of November 5, 1934. This audit is believed to offer a satisfactory report of the secretarial records from May 1, 1934, to November 5, 1934.

"Since November 5, 1934, remittances in the past forwarded to the Secretary, membership records, issuance of membership cards, and other routine functions have been delegated or directed to the Executive Secretary office. Therefore, the following report from the Executive Secretary is reproduced as an official report of the Secretary from November 6, 1934, to May 1, 1935.

1. "Membership for the year 1934 stands at 1285 on May 1, 1935, as against 1171 for the same time last year.

2. "Deposits to the credit of Dr. Geo. M. Gray, Treasurer, in the Merchants National Bank, Topeka, totalled \$10,147.00 from November 6, 1934, to May 1, 1935.

3. "Items covered by these deposits are as follows:

1256 members for 1935 at \$8.00 per member	\$10,048.00
14 members for 1934 at \$7.00 per member	98.00
Overpayment by Shawnee County Medical Society	1.00
	<u>\$10,147.00</u>

4. "Reconciliation of issuance of 1285 membership cards for 1935 is explained as follows:

"Dues received by central office.....	1256 members
Dues received by Dr. Geo. M. Gray.....	2 members
Honorary with no dues.....	27 members
Total	<u>1285 members</u>

5. "Official membership reports have been received from all chartered County Medical Societies except those of Bourbon, Harper, Lincoln, and Republic Counties. Letters of inquiry have been addressed to these counties.

6. "Confirmation lists of all unpaid members have been forwarded to the secretaries of all county medical societies. Replies have been requested and names of deceased, removed, and

non-interested physicians are being removed from membership records. When permission is obtained from the county secretary, invitation letters are being mailed to all non-member or unpaid physicians.

7. "If ratios of late payments continue to similar extent of 1933 and 1934, the Society membership for 1935 will be greater than 1500 members by the end of the year.

Respectfully submitted,

CLARENCE G. MUNNS,
Executive Secretary."

AUDIT OF J. F. HASSIG'S RECORDS AS
SECRETARY

November 10, 1934.

The Kansas Medical Society

Kansas City, Kansas.

Gentlemen:

We have examined the books and records of Dr. J. F. Hassig, Secretary of The Kansas Medical Society, for the period beginning May 18, 1917, to and including November 5, 1934.

The collections for the period above mentioned, as shown by the books and records, total \$123,438.32. Returned checks, during this period, amount to \$221.00, leaving net collections, as shown by the records, \$123,217.32. Payments to date of this report, including check for \$1316.00, which comprised the total cash on hand at this time, amount to \$123,723.28. During 1933, check tax of four cents was deducted, making total disbursements, \$123,732.32.

The payments show an excess over collections, amounting to \$506.00; of this amount, \$502.00 is accounted for, during the period from 1918 to and including 1920. During that time, Dr. Hassig served in the army and it is our information, his secretary, who was in charge of his affairs during his absence, collected this \$502.00, making no record of same on the collection record, the correct collections should include the additional \$502.00. The balance of the difference of \$4.00, arises from the fact, during the year 1923, payments show an excess of \$6.00 above collections for the same period, further, in 1926, payments show \$2.00 less than the collections for the same period, leaving a net overage of \$4.00, which, together with the \$502.00 above mentioned, make the overage of \$506.00. This overage may be accounted for from collections on returned checks which were not shown; the overage herein mentioned, was treated by us as collections for the period.

During the year 1933, we find, in our examination, that the collections which the Secretary was making, were being deposited in The Fidelity State Bank in Kansas City, Kansas, when the bank moratorium went into effect, the Kansas Medical Society had on deposit with this bank, the sum of \$868.00 which the secretary made up personally, and advanced to the new bank account. We find the secretary is still holding certificates of deposit of The Fidelity State Bank, showing they have not paid the sum of \$206.15 of the \$868.00, which the secretary advanced. He is holding this personally and advised us it was his wish the record be made clear on his collections and disbursements and for that reason, he made good the deposit with The Fidelity State Bank of Kansas City, Kansas.

Exhibit "A", hereby attached, reflects collections and returned checks for the period of this examination.

Exhibit "B", hereby attached, reflects disbursements by check, to Dr. Munn and Dr. Gray, as Treasurers respectively, for the period of this examination.

Exhibit "C", hereby attached, reflects the detail of returned checks and reconciliation of collections with disbursements.

We wish to express thanks to Dr. Hassig and his secretary for the cooperation during the examination in question. If there is any further information desired concerning this examination, we will be only too glad to go into same at any time agreeable.

Very truly yours,

J. S. McDONALD AND COMPANY.

I am making official expression of gratitude and appreciation from the officers of this Society to you for the support and cooperation you have shown during this very trying and uncertain year.

Let me request a continuance for next year and for those that are to come after.

It is our considered judgment that this Society needs more members and especially needs more activity and more aggressiveness in its members.

Our most immediately pressing problem is probably the economic one, and you are particularly invited to give thought to it and support to the Committee on Medical Economics.

We believe a studied attempt to understand each other's problems and to ease each other's difficulties would go far in furthering the well being of the profession.

Dr. J. L. Lattimore moved that the report of the Secretary be accepted and incorporated into the official minutes. Seconded and carried.

Dr. Geo. M. Gray, Treasurer, presented the following report:

To the House of Delegates, Kansas Medical Society:

Gentlemen: As Treasurer of this Society, I am herewith submitting a financial statement of the income and expenditures for the period from May 1, 1934, to May 1, 1935:

The standing of the two funds heretofore carried by me as the Medical Defense Fund and the General Fund are as follows:

Defense Fund\$10,743.30

General Fund 8,434.75

Since the inauguration of the new deal in the employment of an Executive Secretary, with offices in Topeka, we have created another fund, the Journal Fund, in which there is now \$442.90, which makes a balance on hand in all funds of \$19,620.95, very nearly the same as the balance of last year, which was \$19,847.50.

Last year your funds amounting to \$11,000.00 were invested in United States Government bonds. On December 20, 1934, I disposed of these bonds, with a profit of \$611.97 premium. Since the sale of these bonds I have not reinvested any of the funds, as there has been no opportunity to secure desirable bonds without paying an excessive premium for them. We made a mistake in selling these bonds at the time we did, for had we kept them until the present time, we would have realized four or five hundred dollars more than we received for them in the sale. However, you did realize a profit of \$611.97, which probably we should be satisfied with, in view of the fact that it might have been a loss instead of a profit. I feel that some of the funds should be invested in desirable bonds, either municipal or government, that would give you an interest on your money, and at least that amount of the Defense Fund not needed for operating expenses during the coming year, should be invested as soon as an opportunity presents.

For the past year, we have operated the Society within the amount in the General Fund, but a little in excess of the income on which you must operate for the coming year. Last year we had legislative expense amounting to several hundred dollars, but you also had interest and premium on bonds in excess of this amount.

With strict economy for the coming year, we should be able to operate on the General Fund, without disturbing the Defense Fund. Your expenses last year in the General Fund were \$9,895.26, and in the General Fund you now have \$8,434.75. To this may be added one thousand to fifteen hundred dollars that have come in from dues since the first of May. With this addition, the General Fund will be brought up to about the amount expended last year.

I have added nothing to the Defense Fund this year, which if done, taking \$2.00 from each membership, would reduce your General Fund to a point where it would be insufficient. I am not sure that this conforms to the resolution offered by Dr. Davis at the meeting last year, calculated to avoid a deficiency in the General Fund by reimbursement from the Defense Fund. However, this is probably the easiest way to handle these funds, as it is embarrassing to the Secretary and Treasurer to run into the red in any of the funds, and I am sure if operated on the above plan, this predicament will be avoided.

Standing of Funds May 1, 1934:

Medical Defense	\$12,393.13	
General Fund	7,454.32	\$19,847.50

Cash Received from:		
Interest on bonds	351.25	
Dr. J. F. Hassig, (Secy.)	1,316.00	
Refund on Bond (Dr. Hassig) ..	1.47	
Dues	16.00	
Merchants Bank	8,579.00	
Central Bank	442.90	(Jr. Acct.)
Profit on Bond Sale	611.97	
		11,318.59
		\$31,166.09

Expended for year ending May 1, 1935:

Medical Defense	\$1,649.66	
Govt. Tax22	
		1,649.88
General Fund	9,894.54	
Govt. Tax72	
		\$9,895.26
		11,545.14

Balance on Hand May 1, 1935	\$19,620.95
Standing of Funds May 1, 1935:	
Medical Defense	\$10,743.30
Journal Account	442.90
General Fund	8,434.75
	19,620.95

Amount on Deposit in Merchant's National Bank, Topeka—Received since May 1st..	1,568.00
(This amount will appear on report for year 1936.)	
Total	\$21,188.95

(A list of vouchers issued during the past year are on file in the central office for reference at any time.)

Dr. O. P. Davis moved that the report of the Treasurer be accepted, and incorporated into the official minutes. Seconded and carried. Dr. Davis also explained that his amendment for application of defense accruals to annual dues was intended to mean that each member should be credited with the annual amount established for dues, that each member should pay that amount less \$2.00 for defense, and that the Treasurer should allocate \$2.00 per member from the Defense Fund to the General Fund, as long and during years in which the Defense Fund is in excess of \$5000.00.

Dr. Henry N. Tihen, chairman of the Executive Secretary Committee, presented the following report on behalf of that committee:

The Executive Secretary Committee herewith submits to the House of Delegates a brief report of its activities since its formation at the last annual state meeting.

In accordance with our instructions, this committee first directed its activities toward the employment of a full-time Executive Secretary for the State Society. After careful consideration of a number of applications, six of the most suitable applicants were all interviewed in person by the entire committee, and after due consideration, this committee has chosen Mr. Clarence Munns for this position. The committee feels wholeheartedly that we have been fortunate in securing an unusually fine and well qualified Executive Secretary.

As his first duty, Mr. Munns was sent by this committee to visit a number of state and county society offices in the middle western part of the United States in order that he might gain the benefit of a study of the organizational facilities of these societies, ending this trip with a study with Dr. Hassig of the organization of the Kansas Society.

A central society office was then established in the Stormont Building, Topeka. This office is not pretentious and is rather inexpensively furnished. The committee has endeavored to keep the expense on a sound basis and it is our feeling that a little larger and a little better furnished office can be occupied at any time in the future that such a move is deemed best. The committee deemed that Mr. Munns should have the help of two full-time girls in this office and the committee has given to Mr. Munns full authority over the selection and maintenance of the personnel of this office, allowing a salary of not over \$125.00 for one girl and not over \$80.00 for the other girl.

The salary of Mr. Munns agreed upon was \$250.00 per month plus an expense account for traveling expenses. When Mr. Munns uses his own personal car, it was agreed to allow him $1\frac{1}{2}\text{¢}$ per mile plus gasoline. This expense account amounted to approximately \$22.00 (less than \$8.00 per month) for the first three months of Mr. Munns' work for the Society. In addition to this, the first month Mr. Munns was given an additional \$100.00 to partially compensate him for the expense involved in visiting the other state and county society offices at the beginning of his work.

The change in the Society arrangements has necessitated certain readjustments in the matter of vouchers, check signing, records, etc. These matters have been gradually worked out by discussion with the officers involved by these changes. Some readjustments are still to be satisfactorily arranged.

The arrangements for the care of the Journal work has been the selection of an Editor, Dr. W. M. Mills of Topeka, who with Dr. L. R. Pyle, Dr. R. B. Stewart, and Dr. F. C. Taggart constitute the Editorial Board. The members of this board were chosen from Topeka in order that they might meet frequently and conveniently, which would further the best interests of the Journal. In addition to the Editorial Board, a number of associate editors have been chosen from throughout the state to give assistance to the Editorial Board. The Editorial Board has full charge of the publishing of the Journal, and our committee would hereby like to express its appreciation to Dr. Mills and the Editorial Board for their splendid Journal work.

We feel that this has completed the work of this committee. The committee has attempted not to intrude on the regular work of the other officers, or the Council, or the other committees of the Society.

We would also like to express our sincere appreciation of the interest and help in establishing this office of Dr. Hassig, under whose leadership we have been working.

One further word of explanation may also be in order. There have been many invitations for Mr. Munns to address local county societies, all of which he would have liked to have accepted. However, in view of the great amount of work involved in establishing this office, the committee made considerable restrictions on these visits. However, we hope that from now on more of these invitations can be accepted.

Any failure to accept an invitation to appear before the county society should be laid at the door of the committee and not to any lack of desire on the part of Mr. Munns for visiting all societies.

The committee has one suggestion to make—namely, that the smooth functioning of the Society under the new organization will require a revision of the Constitution and By-Laws and the committee urges that this be carried out as rapidly as possible.

I, as Chairman, wish to express my appreciation of the splendid work of each member of this committee. We have averaged a meeting nearly each month since the formation of the committee. There have been only a few unavoidable absences for all of these meetings, some of the men traveling a great distance to be present and each member has worked with only one object in mind—namely, the best interests of the Society.

Copies of the following recent report made by the Executive Secretary to this committee are to be distributed to members of the House of Delegates as a report of the activities of that office.

To Members of the Executive Secretary Committee:

The following report, respectfully submitted by the executive secretary, attempts to cover in as brief form as possible all major activities of that office since installation::

I. During the month of August the executive secretary visited, for instruction purposes, the following organizations: American Medical Association Headquarters at Chicago, Indiana State Medical Association at Indianapolis, Ohio State Medical Society at Columbus, Academy of Medicine at Cleveland, Wayne County Medical Society at Detroit, Michigan State Medical Society at Grand Rapids, State Medical Society of Wisconsin at Madison, Milwaukee County Medical Society at Milwaukee, Missouri State Medical Society at St. Louis, St. Louis County Medical Society at St. Louis, and St. Louis Medical Society at St. Louis. August salary and an additional \$100.00 were appropriated by the committee for this purpose.

II. On August 30, the executive secretary reported for work in Topeka at the office then occupied by the Journal staff. Thereafter, most of September and part of October were devoted to the Journal, in locating new office facilities, and in purchasing extra furnishings and equip-

ment. On October 18, new offices were opened in the Stormont Building, and two women assistants were employed. Tenancy in the Stormont Building had been secured on a month to month basis for \$35.00 per month and cost of new furnishings totalled \$141.05. The change in office and facilities was necessary inasmuch as the prior location in the Central Building, at \$22.00 per month, did not offer enough space, and as the furnishings were designed for a one-person office rather than for three persons.

III. The remainder of October and most of November were then spent in organization of the office, in assistance to the editorial board for changes in the Journal, and in making preparations for institution of projects.

IV. Miscellaneous activities since that time are described as follows:

1. Legislation: A considerable portion of December, January, and February was spent under supervision of the Legislative Committee in legislative activity. A legislator file was developed through assistance of county medical societies. A complete list of calendars and individual votes of legislators on all measures was assembled for future reference. Assistance was given the Legislative Committee in attendance at sessions, in forwarding bulletins, and in efforts through letters, telephone, and telegraph. Results were that the basic science law was not either passed or defeated, and that no unfavorable laws were passed. Legislative expense, mostly telephone and telegraph, totaled \$364.29.

2. The Journal: Until February, much time was devoted to assembly of the Journal. At that time, it was possible to organize the Journal work of the central office so that most of it might be delegated to one of the assistants. Several alterations of style and material had been made in the Journal at the suggestion and approval of the editorial board. Advent of the publishers code occasioned some increased costs but the Journal has managed to remain self-supporting. Present cash reserve, with all bills paid, is approximately \$450.00, and an additional \$100.00 is available in good accounts receivable. Advertising has not been materially increased due to lack of time, and efforts are to be commenced after the state meeting in May which should produce income sufficient to make possible further plans of the editorial board.

3. Indigent Medical Care: First activity on

this problem was a survey of conditions in Kansas which was secured through assistance of county medical societies. This, almost without exception, portrayed an unsatisfactory situation, and authority was given the executive secretary for conference with Kansas relief officials. These conferences did not produce satisfactory results, and authority was secured for presentation of the matter to Washington through representatives of the American Medical Association. After considerable correspondence, indication was given that Washington relief officials would reverse the position of Kansas relief authorities if the Society cared to bring pressure to bear. On January 15, the Council deliberated on this proposal, and made decision that activity should be withheld until the legislature adjourned, and until national changes in relief had developed. On March 6, the Medical Economics Committee was appointed and commenced study on this problem. Subsequently, it prepared and presented a plan to Kansas relief officials. If the plan is not accepted, the above committee proposes to recommend certain definite alternatives to the House of Delegates at its May meeting.

4. Other Economic Problems: In addition to activity on indigent care, the Medical Economics Committee has met at almost two weeks intervals for activity on problems of health insurance, semi-indigent care, hospital prepayment care, and physicians pre-payment care. Plans of this committee are extensive, and it is their intention to provide methods of solution for current economic difficulties in addition to dissemination of information to members. They have recommended local economic committees for county societies, they are supervising an economics section in the Journal, they plan on speakers bureau activity among members and lay groups, and they are studying and formulating many definite plans and courses of procedure. Their report to the House of Delegates will make possible determination of policy on several matters of importance. All available data on health insurance has been furnished and forwarded to county societies, and also several bulletins on economic subjects. The committee has been furnished all possible information pertaining to medical economics, the central office is assembling files on all data and methods, and a legal brief including an opinion of the Attorney General has been secured on the rights of corporate practice of medicine in this state.

5. Cults and Quacks: A brief has been made of the healing laws of this state which tended to show that rights to practice medicine and surgery are conferred only upon doctors of medicine. Approval of these findings was secured from the Bureau of Legal Medicine of the American Medical Association, and several committee meetings have been held for consideration of this subject. The Board of Medical Registration and Examination has offered all assistance possible, and is now completing plans for prosecution of cultists and quacks who are violating the medical practice act.

A survey has also been completed through assistance of county societies which has provided information as to all irregulars holding county offices, and all irregulars who are otherwise practicing medicine and surgery without proper licenses.

6. Board of Regents Member: The Medical School Committee will have a conference with Governor Alf Landon in the near future for purposes of securing a doctor of medicine on the Board of Regents upon which two vacancies will occur in June, 1935. It is believed a physician could offer much assistance to the board, particularly on scientific courses in state schools.

7. Public Health Education and Information: A meeting of the Committee on Public Health Education and Information was held recently for consideration of radio news releases, and speakers bureau projects. Decision was made that news releases and speakers bureaus should be instituted immediately and that radio activity should be withheld until the others are in operation. Material has been assembled from other societies which will be available for use until the committee can prepare original releases. Speakers bureaus are contemplated to cooperate with the cancer, legislative and economic committees for purposes of enlisting the support of lay groups on problems. It is thought that the speakers bureaus may consist of official representatives, or that prepared talks and outlines may be distributed to members for general presentation where possible.

8. Cancer: The executive secretary has not found time to offer assistance to the cancer committee. Its work, though, has been active, and through its efforts legislative intentions, similar to the crippled children's law have probably been directed into more advisable channels.

9. Post Graduate Courses: The impending

state meeting has made it impossible for the Committee on Scientific Work to consider adoption of a post graduate course project. After the meeting, it is believed that plans may be considered wherein member speakers, movies, lay speakers, and commercial representatives will be made available to county societies under a definite and supervised program.

10. State Meeting: An effort has been made since January to give all assistance possible to state meeting committees. Some correspondence and investigation has been handled, commercial and scientific exhibits were delegated under supervision to the central office, assistance in securing prizes for the golf and trap tournaments has been given, and several trips have been made to Salina. Financial outlook of the meeting seems favorable inasmuch as \$650.00 has already been contracted for commercial exhibits, as several more exhibitors are expected, and as Saline County Medical Society has sold \$500.00 in local advertising for the official program.

11. Auxiliary: The central office has offered any aid possible to the Auxiliary. Their bulletins and newsletters are mimeographed by the office, several investigations have been made, certain American Medical Association exhibits have been secured for their booth at the state meeting, and an offer has been made to establish the office as their permanent headquarters for records, files, supplies, etc.

12. County Organization: The plan for securing official representation in each county as approved by the Council has been withheld on account of certain difficulties until the state meeting. It is hoped that it may be instituted at that time.

13. Records and Facilities: No additions of personnel or facilities are thought to be necessary at this time. The office has all work that it can manage, but for the sake of economy can continue as it is. New mimeograph equipment was secured as approved by the Council. There is need for an audit and improvement of the present accounting system, but necessary arrangements have been made by the Council. An official attorney would possibly be advantageous, and the executive committee is assisting in necessary arrangements. Reference files are being developed on all subjects of interest.

14. Trips: The executive secretary has made two trips to Chicago for meetings of the Secretaries Conference and the special meeting

of the American Medical Association, House of Delegates. Trips to county societies have not been as extensive as might be desired due to office work. However, visits have been made to Brown County, Douglas County, Shawnee County, Wyandotte County, Franklin County, Central Kansas, Southeast Kansas, Saline County, Ford County, Edwards County and Golden Belt Medical Societies. In the next few months it is hoped that visits may be made to all societies not yet visited.

15. Finances: Remittances for dues have so far been satisfactory, and four county societies, formerly dormant, have reorganized. Expense for the seven months of September, October, November, December, January, February and March is shown on the following statement which includes every voucher requested by the office to date of April 1 with the exception of \$125.00 for audit of Dr. Hassig's records and \$150.00 paid to Dr. Earle G. Brown for the September Journal. It will be noted that a greater surplus would have been available except for considerable unusual expense such as furniture, mimeograph, legislation, executive secretary trip, which are included. Also, change of personnel has occasioned a reduction in salary overhead.

Income:

(For comparative purposes $\frac{7}{12}$, or seven months of total income from 1450 members at 8.00)\$6,766.62

Expense:

Salary:

Clarence G. Munns	\$1,750.00
Isabel Wright	420.00
Peggy Strawn	225.00
Ruth Carlson	599.16

\$2,994.16

Office Rental	197.50
Postage	160.78
Telephone and Telegraph	398.20
Stationery and Supplies	180.64
Travelling	133.61

Other:

Executive Secretary trip..\$	350.00
Furniture	141.05
Mimeograph	110.00
Other Legislative	79.25
Bonds and Insurance	25.81
Repairing Typewriters	20.50
Council	16.95
Miscellaneous	51.75

795.31

\$4,860.20

Estimated Surplus of income over expense
for this period\$1,906.42

V. Conclusion: The executive secretary feels that progress in the future may be more rapid inasmuch as necessary groundwork is complete, and as better organization of his

work will make more time available. He has sincerely appreciated the great amount of time and assistance given by the members of this committee, by Dr. J. F. Hassig, Dr. W. M. Mills, and the editorial board, Dr. Geo. M. Gray, Dr. H. L. Chambers, Dr. E. C. Duncan, Dr. C. H. Ewing, Dr. F. L. Loveland, Dr. Earle G. Brown, Dr. O. P. Davis, all councillors, all committees, and members. This has contributed to making the most interesting and enjoyable work the writer has ever experienced.

Submitted: April 12, 1935.

CLARENCE G. MUNNS,
Executive Secretary.

Dr. O. P. Davis moved that the report of the Executive Secretary Committee be accepted and incorporated into the official minutes. Seconded and carried.

Dr. O. P. Davis, chairman of the Medical Defense Board presented the following report:

To the House of Delegates:

Your Medical Defense Board respectfully submits a report of its activities during the past year.

It will be seen, by referring to the report of our attorney, which is subjoined, that we have had but four new cases since last report, while last year we had fourteen new cases, the largest number in any year of our experience. We expressed a fear, in our last report, that this large increase in cases would continue, owing to the financial stress we are passing through and the general inclination to pluck dollars wherever possible. It would seem that this apprehension was erroneous.

Nine of the cases on our list have been disposed of, two by settlement of the insurance carrier, one by the defendant personally, and six by litigation, all the latter in favor of the defendants. We have always discouraged settlement or compromise of these cases. It is our view that we have a two-fold purpose: one, to inhibit the tendency to bring these suits against our profession; the other, to protect the individual doctor's reputation as well as his pocketbook, particularly the former. Neither of these ends is achieved by settlement or compromise. However, we have no power to prevent such action if the defendant or his insurance carrier so elects.

We have twenty active cases on hand at this time pending trial. As Mr. Hamilton says, it

seems wise not to press these cases to a conclusion with any more speed than necessary, owing to the prevailing tendency of juries, these days, to give allegedly unfortunate complainants the best of it, as against the supposedly affluent doctors.

A table of the expenditures of the Board for twenty-one consecutive years is appended, which will doubtless be of interest.

The Defense Fund is in a very satisfactory condition. The last report of the Treasurer showed a balance in that fund of \$12,393.18. This seemed to many a larger reserve than necessary for the purposes of defense. Inasmuch as the last House of Delegates found it necessary to raise the state dues from \$7.00 to \$10.00 because of the new administrative program, it was thought that a plan which would lighten, for a few years, this increased burden on the membership might be welcome. Accordingly, an amendment to our constitution was proposed which, if adopted, will suspend collection of the \$2.00 annual assessment for defense from each member, all costs for defense each year to be drawn from the accrued reserves until said reserves shall have been reduced to \$5000.00. This plan, we hope, will be appreciated by many of our members, and we believe it will save our rolls from a considerable shrinkage. We are glad to feel that our defense system may be able to help, in this additional way, during times like the present.

The personnel of this board has changed, more or less, from time to time, during the years, but during the past twenty-one years, it has fallen to the lot of its present chairman to be continued as its executive officer without interruption. He desires to interpolate into this report his thanks for whatever confidence on the part of the membership may have been felt. And now, as he lays down his work on this board and on the council, he wishes to bespeak for his successor, whoever he may be, that measure of support which is reasonably his due. He also desires to have his fellows believe that he has had his heart in this work. He has written in person to every member seeking defense assistance promptly, sincerely trying to ease his worry, to encourage him and to assure him that our great society is behind him; to promise him a strong, persistent and fraternal defense.

The board wishes to acknowledge its appreciation of the services of our attorney, Mr. John Hamilton. His courtesy has been uni-

form, his devotion to our interests untiring, and his ability most manifest. An association such as ours has been is rich in memories.

DEFENSE BOARD EXPENDITURES—21 YEARS

1915	\$ 1,254.95
1916	1,189.27
1917	777.45
1918	809.58
1919	759.41
1920	1,245.51
1921	1,458.35
1922	1,236.08
1923	1,310.96
1924	1,479.76
1925	1,970.05
1926	2,008.13
1927	1,981.03
1928	1,949.02
1929	2,279.43
1930	1,549.54
1931	1,759.86
1932	1,812.84
1933	1,583.60
1934	2,093.47
1935	1,649.66

Total, 21 years	\$32,157.95
Average, per year	\$ 1,531.33

Dr. O. P. Davis, Chairman,
Medical Defense Board,
Kansas Medical Society,
Topeka, Kansas.

Dear Doctor Davis:

I am enclosing herewith the annual summary of cases made up in the usual form which I have employed heretofore covering period of April 1, 1934, to April 1, 1935. (Detailed list filed for reference in Executive Secretary office).

You will note there are only twenty active cases now carried on this report which, if my memory serves me correctly, is the smallest number of cases carried since I have been counsel for your board.

Referring to the report it will be noted that since April 1, 1934, the date of my last report, only four new cases have been filed. This is by far the smallest number of cases filed during any single period. Possibly it may be accounted for by the fact that in my preceding report fourteen cases were filed, which was the largest number filed in any single year.

In analyzing the report it will be noted that during the last year nine cases have been disposed of. Of these, two have been settled by the insurance carrier and one by the defendant personally; leaving six which have been presented to trial courts and action had favorable to the defendant.

There has been no attempt to press out-

standing cases for trial. It is the general consensus of opinion of attorneys engaged in defense of actions for damages that the present state of mind of juries tends for verdicts for the complaining parties and toward larger sums than have heretofore been granted by way of damages. This is also my personal opinion and it is for this reason that I have at no time pressed the cases to trial when the plaintiffs were apparently willing to allow them to lie dormant.

Trusting that my report will be accepted favorably by you, I am

Yours very truly,

J. D. M. HAMILTON.

Dr. C. C. Nesselrode moved that the report of the Medical Defense Board be accepted, and that Dr. O. P. Davis, retiring chairman, be extended a vote of thanks for his faithful twenty-one years of service. Seconded and carried.

Dr. H. F. Hyndman moved that reports of the Councilors, not be read, and instead that they be handed to the Secretary for incorporation into the official minutes and for publication in the Journal. Seconded and carried.

R. T. Nichols, M.D., Councilor of the First District, submits the following report:

I have attended all the meetings of the Council during the past year except the last one in Salina. During this past year the Doniphan County physicians have formed a Medical Society largely through the efforts of Dr. Ray Meidinger at Highland and also in April, largely through the efforts and zeal of Dr. W. G. Emery, a District Medical Society was formed in Northeast Kansas and Southwest Nebraska, under the name of the Kansas-Nebraska District Medical Society, the membership of which is to be composed of the members in good standing of the county medical societies of Richardson County, Nebraska, and Nemaha, Brown and Doniphan counties in Kansas. Dr. W. G. Emery was chosen as first president. This district society was organized not to replace or conflict in any way with the county medical societies, but with the thought that we could have larger audiences for our out-of-town speakers, and also we probably could get better cooperation among the doctors of this section of Kansas and Nebraska.

I consider the affairs of the doctors in Brown County in as good shape as could be expected.

Dr. L. F. Barney, Councilor of the second district, submits the following report to the House of Delegates:

This district has nine county medical societies, viz., Wyandotte, Douglas, Coffey, Miami, Leavenworth, Linn, Johnson, Franklin, and Anderson.

In this district, according to the reports of the officers of these county societies, there are 315 M.D.s, of whom 303 are eligible for membership and only 274 are members. This leaves twenty-nine eligibles M. D.s, who are existing as parasites, reaping more or less the benefits of organized medicine and giving nothing or too little in return. Of these eighteen are in Douglas County, three in Coffey, one in Miami, four in Leavenworth, one in Linn, three in Johnson, two in Franklin, and four in Anderson County. Wyandotte County has one hundred per cent of the eligibles. Among those who are eligible and are not members, the reason given is, that a few state that their incomes do not permit the expense of membership, and a few others are aged and feel that they have given sufficiently of their talents, efforts and means in the past to justify their retirement from society activities. Among those remaining various reasons are given. Next year we hope to have a roster of every M. D. in the district and of those who are not members know the reason for each.

The average attendance of the members at their meetings in some counties, as shown by the analysis, is quite satisfactory.

As compared with former years, six societies show more interest manifested this year while in three it remains the same.

One county society, Coffey, which had been inactive and given up having meetings was stimulated to reorganize and is now meeting regularly and doing good work. One county society has requested that the State Society lower its dues.

The analysis shows the number of visits made by the councilor to each of the county societies during the year. The visit made to the Miami County was made at a joint meeting of the Miami and Linn County societies. Next year he hopes to have the privilege of being more helpful and making more visits.

Most of the officers and members of the societies in this district have worked diligently and cooperated earnestly with their councilor and with the other officers and committees of

the Kansas Medical Society, and to them I wish to express my profound gratitude.

Dr. E. C. Duncan, Third District Councilor, submits the following report:

Conditions in this district are as satisfactory as could be expected.

We believe the installation of our Executive Secretary has had a good effect in fact and psychologically.

I have visited each county society or contacted the members at the meetings of the Southeast Kansas Medical Society.

The different counties are struggling with the intricacies of federal relief and direct relief; and each county appears to have a different method, mostly unsatisfactory.

In Montgomery County an Independence physician who has been rejected for membership four times, feels himself aggrieved and has made formal application to the Council to review his case.

Many of our members are anxious to have some action taken against the cults practicing medicine and surgery.

Dr. O. P. Davis, Fourth District Councilor, submits the following report:

Counties in Fourth District: Shawnee, Wabaunsee, Geary, Osage, Morris, Lyon and Chase.

County societies in Fourth District: Shawnee, Lyon and Geary, each with membership composed as follows, by counties: Shawnee County Society, 144 members, derived as follows: Shawnee, 119; Jefferson, 7; Osage, 7; Pottawatomie, 4; Wabaunsee, 4; Coffey, 2; Jackson, 1. Lyon County Society, 34 members, derived from Lyon, Greenwood, Chase, Morris and Coffey counties. Geary County Society, 10 members, derived as follows: Geary, 9; Morris, 1.

Shawnee County Society: Number of new members since last report, 3 by application, 1 by transfer. Number of members lost, 2 by transfer, 1 by suspension, 3 by death. Number of regular meetings, 9. Average attendance, 88. Guest speakers, 6. Comment: One of the best years the society has ever had, with the largest recorded paid membership.

Lyon County Society: Number of new members since last report, 3, (by application). Number of members lost, 1 (by death). Number regular meetings, 11. Number special meetings, 2. Average attendance, 23. Guest speakers, 3. Comment: This fine society makes its usual good showing: regular meetings every

month, splendid attendance, printed program for the year, in advance, good fellowship.

Geary County Society: No new members since last report. No members have been lost. Only one regular meeting has been held, the annual meeting; one special meeting. Average attendance, 5. No programs have been put on. Comment: This society maintains an organization, but does not attempt to carry on any social or scientific functions. It perhaps should affiliate with the society in one of the adjoining counties.

Dr. Henry Tihen, Councilor for the Sixth District, submits the following report:

The Butler-Greenwood County Society is an example of a splendidly functioning county society, which has demonstrated in dollars and cents the value of cooperation of the medical men in their own county society. They have developed a very satisfactory plan of caring for the indigent through active cooperation with the county commissioners. This has been of benefit to both the profession and the public and I commend a study of the Butler-Greenwood County plan of caring for the indigent to all other county societies.

Cowley County and Sumner County each have an active county society and, together with Kay County, Oklahoma, also take in active tri-county meetings several times yearly.

The Sedgwick County Society continues to function actively and well with the assistance of its full-time executive secretary, Mr. Mac Cahal.

Harper and Kingman counties each have an active medical society organization which, however, have not been active. Recently an attempt has been made to include Barber County, which has no county society, and develop trii county meetings. The first meeting was successful. It remains for the future to reveal whether these three counties will make a success of this venture.

Comanche County has only five physicians, four of whom belong to the county society, and have their own meetings for attention to local county affairs and attend the Ford County meetings for scientific purposes. Clark County also has five physicians, four of whom belong to the Ford County Society. They do not have any local county organization or meetings.

In general, the two most important problems before the profession in each county seem to be first of all, a suitable plan for caring for

the indigent which will give adequate recompense to the physicians for this large amount of work. While the State Society will give all possible aid in formulating these plans, yet in the end the profession in each county will have to develop its own county society organization sufficiently to find the best solution for this problem in their county. I am firmly convinced that the Butler-Greenwood County plan should be studied by the counties interested in this problem.

The second problem is the curbing of the influx of cultists which lowers the standards of medical care in any county. The basic science law is the best means of protecting the quality of medical services to the people.

Dr. C. C. Stillman, Councilor for the Seventh District, submits the following report:

A survey of the Seventh District for the past year shows as a whole, a rather gratifying situation. Washington County, recently reorganized, is a most lusty juvenile. Regular monthly meetings have been held throughout the year. Uniformly good programs. Your Councilor has been present at two of these. Dinner meetings and exceptionally interesting programs. However, Washington is no longer the "baby" of the district. Cloud County has rejuvenated.

Cloud County is extraordinarily fortunate in the excellent material that they have to draw upon for a society, though they were so long rather dormant. Now they have again started out with a zoom. We also have attended two of their meetings; large ones and of outstanding interest.

Mitchell County Society is coming along very well. Though Mitchell is one of the western counties that is well within the border of the dust bowl, so-called, and the medical profession there is feeling the pinch though their spirit is unbroken.

Osborne County is situated much the same as is Mitchell, and their medical society still carries on, though under the same economic difficulties. Jewell and Rooks, also in the very hard hit area. Neither county boasts an active society, though both have high type practitioners of medicine, and most scantily rewarded, we may well add.

Republic County has a somewhat unfortunately divided society. Though they report nine meetings past year, and five members.

Clay County has passed another excellent year. One meeting had to be abandoned by reason of a "duster." But they rather made up

for this by an outstanding "field day" meeting in June last. All day affair. Speakers from Mayo Clinic as well as Kansas City, Wichita, Topeka and other points. Had more than 125 guests and members present. Something to shoot at in the way of a county society meeting in a drouth-dust area and but eighteen medical men in the county.

Though Saline County is not in this district, we wish to take this opportunity to commend their membership for a number of excellent programs presented to various counties of our district the past year. An extra outstanding as well as pleasing bunch of medics.

Dr. Alfred O'Donnell, Councilor of the Eighth District, submits the following report:

I beg to submit the following report from the Eighth District, comprised of the counties: Saline, Ellsworth, Ottawa, Dickinson, Lincoln.

Ellsworth County Medical Society: Number of members, 8; physicians in county, 8; physicians in county eligible but not members, 0; meetings held quarterly—Central Kansas Medical Society.

Ottawa County Medical Society: Surrendered their charter in 1932, some of the members have affiliated with nearby medical societies.

Dickinson County Medical Society: Number of members, 18; physicians in county, 22; physicians in county eligible but not members, 0; meetings held quarterly.

Lincoln County Medical Society: Number of members, 7 (2 members of Central Kansas); physicians in county, 7; meetings held quarterly.

Saline County Medical Society: Number of members, 34; physicians in county, 38; physicians in county eligible but not members, 4; meetings held monthly; society active.

For the third time the Saline County Medical Society was host to the State Society.

Shortly after the last annual session, local committees were appointed and as a result of the efforts of these committees, a most interesting program was arranged. The Society has spared no effort to make the 77th Annual Meeting an outstanding success.

Dr. H. O. Hardesty, Councilor for the Ninth District, submits the following report:

The past year has not been active in this district. We have only one active society, Decatur-Norton County Medical Society. This society has called meetings which are well attended

and are very good meetings. At the last meeting it was voted to change the name from Decatur-Norton County Medical Society to Northwest Kansas Medical Society and to include the entire ninth councilor district.

Dr. C. D. Blake, Councilor for the Tenth District, submits the following report:

The Tenth District being made up of the following counties: Sheridan, Graham, Trego, Gove, Logan, Wallace, Ellis and Russell counties, is unique in that the members of the profession in these counties hold their society affiliations in two principal groups, The Central Kansas and The Northwest, formerly known as the Norton-Decatur County, there being no individual county societies.

This being true there were no visitations of your Councilor to any component societies in the district.

However, during the year, attendance was registered in the Northwest and The Rush-Ness and Central Kansas for the major purpose of trying in a humble way to stimulate interest in the then pending important legislative matters.

Also during the year the district shows a regular medical population of forty-one, all of which are in active practice except two.

Also there is a population represented by the osteopaths and chiropractors of fifteen and of no little interest was the ascertained fact that practically all in this group were practicing medicine, there were two in the survey that were not believed to use drugs in any form.

Because of the depression time it is a difficult task to determine the actual bonafide membership of the profession in this district at the present time as some have lapsed account dues, and some are carried even though delinquent.

Our major problem has been an attempt to place on a working basis the care of the pauper class and those on relief whereby the attending physician may receive at least a minimum compensation for his services.

I am sorry to state this program is still in the making but has not as yet been attended with any degree of satisfactory success.

In closing I wish to express a word of commendation for the hearty cooperation of the district group in giving of their time and money in an attempt to further the cause of organized medicine through legislation, and in the future they will be found in greater organized effort to attain the object sought.

Dr. C. H. Ewing, Councilor for the Eleventh

District, submits the following report:

The Eleventh District is composed of ten counties extending from Barton County on the east to the Colorado line.

On account of the sparse population in the west end of the district these counties do not have societies of their own but practically all doctors in such counties are associated with societies in joining counties.

There are four organized societies in the district, Barton, Pawnee, Edwards and Rush-Ness.

Within the past year the society was organized in Edwards County and is one of the most active societies in the district.

The membership in the organized counties is practically one hundred per cent of eligible doctors.

Dr. E. C. Duncan, chairman of the Public Policy and Legislative Committee, handed the following report to the Secretary for incorporation into the official minutes, and for publication in the Journal:

To the House of Delegates:

Last May in Wichita this committee was directed to take such action against the cults as seemed wise after investigation.

A committee meeting could not be held until September on account of the near elections, the meeting of the Council of the Legislature in November, and the January legislative session; it was decided no direct action would be taken until after the Legislature had adjourned. After many meetings and consultations this was deemed best. All we care to say here is that after mature deliberation with both legal and medical talent, the State Board of Medical Examination and Registration will proceed satisfactorily.

The legislative session brought out some startling but well known facts regarding medical legislation. With the assistance of Munns we are able to keep objectionable legislation from being enacted.

Our committee had quite a number of meetings in Topeka. The Basic Science bill was introduced by Senator Diefendorf and we naturally supported it although we had decided beforehand this was not the year to sponsor any major legislation. For the first time we have convinced legislators that our organization is a force to be reckoned with in this state.

Details have been sent to each individual member of our society in bulletins, hence it is

not necessary to elaborate on our past year's work or our plans any more than to say that it behooves each member of our society working through the county society to decide upon our legislators for next year; let's stop playing the politicians game and play our own game.

Dr. E. C. Duncan, acting chairman of the Construction and By-Laws Revision Committee, stated that committee with the assistance of Dr. A. W. Fegtly, had prepared a new Constitution and By-Laws for the Society, that it intended to make a few additional changes, and therefore desired to report that the work was being accomplished and that after proper publication in the Journal the complete revision could be considered for final adoption at the 1936 meeting of the House of Delegates. Further, that this committee desired to thank Dr. Fegtly for the great amount of time and assistance he had contributed.

Dr. O. P. Davis stated that the report could not be adopted at this time since the suggested Constitution and By-Laws were not in final form and therefore moved that the committee be permitted to continue its work for presentation of a further report at the next mid-winter meeting of the Council whereupon a new Constitution and By-Laws could be approved and published twice in the Journal for adoption or rejection in 1936. Seconded and carried.

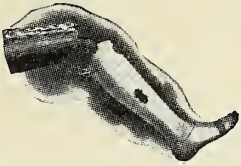
Dr. H. F. Hyndman, in the absence of Dr. H. E. Haskins, presented the following report on behalf of the Public Health and Education Committee:

A meeting of the Committee on Public Health and Education was held at Dr. H. F. Hyndman's office, Wichita, on April 10.

Members present were: Dr. H. E. Haskins, chairman, Dr. H. F. Hyndman and Dr. Forrest A. Kelley. Other members were present from Sedgwick County Medical Society, and Mac Cahal and Clarence Munns were present as executive secretaries.

Dr. L. A. Calkins, Kansas City, appeared on behalf of the American Committee on Maternal Welfare, Inc. and requested the endorsement of the Kansas Medical Society for its work in Kansas. Also that the Society consider the appointment of a committee on Maternal Welfare for further cooperation.

Dr. Hyndman moved that the following resolution be adopted by this committee for



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recommendation to the House of Delegates at its regular meeting in May:

...WHEREAS: The Kansas Medical Society believes in the propriety of extensive research, assembly of data, and compilation of statistics on the subject of maternal welfare.

WHEREAS: The Kansas Medical Society believes that all possible information on maternal welfare should be disseminated to the Kansas public and the Kansas medical profession.

WHEREAS: The Kansas Medical Society fully commends and endorses the activities of the American committee on Maternal Welfare, Inc., toward these purposes.

WHEREAS: The American Committee on Maternal Welfare, Inc., has requested the co-operation of the Kansas Medical Society in this work, and its appointment of a standing committee for further assistance in Kansas.

Be It Therefore Resolved: That the Kansas Medical Society shall establish a permanent and standing committee on maternal welfare to be composed of five members, three of whom shall be obstetricians, one of whom shall be a surgeon, and one of whom shall be an internist. That this committee shall be empowered to cooperate with the American Committee on Maternal Welfare, Inc., and to act in other ways for advancement of maternal welfare in Kansas. That until this standing committee shall become legally constituted under the constitution of the Kansas Medical Society, the president of that organization shall be immediately authorized to appoint a temporary committee for institution of activity.

Dr. Hyndman moved that the executive secretary of the Kansas Medical Society be authorized to make arrangements for news releases and member speakers bureaus to further distribution of public health and medical economics information to the public, and that material to be utilized for this purpose be submitted to the committee for approval. Seconded by Dr. Kelley and carried.

Dr. H. F. Hyndman moved that the report and resolution contained therein be accepted and incorporated into the official minutes. Seconded and carried.

Dr. W. S. Lindsay, chairman of the Medical History Committee, handed the report of that

Committee to the Secretary for incorporation into the official minutes and publication in the Journal as follows:

The year 1934-35 added an eventful and interesting chapter to the history of the Kansas Medical Society.

During that time organized medicine reached the peak of an economic crisis. Depression years had caused the accumulation of vast numbers of persons unable to support themselves. One of every five individuals was receiving aid from the county, state or federal government. The Kansas profession had carried its share of the burden with little or no governmental financial assistance, and statistics indicated that rates of morbidity and mortality had continued to improve.

At the same time, there came considerable propaganda favoring socialized medicine and health insurance. Persons, unfamiliar with actual facts, believed that medical care could be improved with socialistic systems. A national administration endorsed consideration of its possibilities. Literature became filled with arguments for and against state medicine. The American Medical Association, for the second time in its history, held a special meeting of the House of Delegates to deliberate on the imminence of health insurance legislation. Many states saw health insurance proposals introduced into their legislatures. The Kansas Medical Society created a committee on medical economics to study present difficulties, to formulate policies, and to plan for the future. Medicine did not want to see the public and profession suffer through regimented and administered systems.

Likewise, new problems had brought about the necessity of a central office, and plans were adopted whereby Clarence Munns, an attorney, was employed as full time executive secretary of the Society. An office was opened in Topeka during October, the records were consolidated therein, and it was fitted into the scheme of organization.

Dr. J. F. Hassig closed his successful term of eighteen years as secretary to accept the presidency. His years of service and devotion are deserving of one of the highest tributes ever paid an officer or member of the Society.

The time has undoubtedly been difficult, but medicine is further along in solution of its problems than ever before, and the future is faced with optimism.

(To be Continued Next Month)

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NEWS NOTES

EDITORS MEETING

A meeting of the associate editors and the editorial board was held at Salina, May 8, in the Warren Hotel, attended by Drs. W. M. Mills, L. R. Pyle, J. L. Lattimore, F. C. Taggart, Murray Eddy, Fred J. McEwen, Donald N. Medearis, Phillip W. Morgan, L. S. Nelson, Thomas G. Orr, George Paine, John N. Sherman, and Howard E. Snyder. Clarence Munns, executive secretary, also attended.

Members of the editorial board requested discussion as to possible changes or additions for improvement of the Journal. A suggestion was made that associate editors and members of the board should attempt to attend all possible county medical society or district meetings and that they should extend invitations to the speakers at these programs to submit their papers to the Journal for publication. Use of articles on medical history and sketches concerning pioneer physicians it was thought would be of interest to members. A decision was made that where possible each original article should contain a summary and a bibliography. The news note section received favorable comment and present arrangement of advertising therein was believed to offer commercial possibilities without detracting from the value of the section. Advisability of mailing the Journal without wrappers was considered and all believed that the present system permitted considerable saving without difficulty. Recent elimination of professional cards was discussed and the present policy is to be continued for at least the next year. No new sections were deemed advisable until additional pages could be added to the Journal and no alteration in style or typography was thought to be necessary.

MEDICAL RELIEF

The Medical Economics Committee, under authority granted by the House of Delegates at the recent state meeting, has attempted to proceed with its plan for medical care of indigent persons.

Representatives of the committee held a conference with Governor Alf Landon and Mr. John Stutz, executive director of the Kansas Emergency Relief Committee, on May 12. Governor Landon expressed belief that a plan satisfactory to relief recipients and the medical profession should be immediately provided, and offered his fullest cooperation toward that end. After later conferences with Mr. Stutz the committee's plan as follows was approved on behalf of KERC for offer to county medical societies and county commissioners:

1. County medical societies would be authorized to contract with county commissioners to serve as official units or agencies for provision of medical care to KERC relief clients.

2. Medical service for these clients would be extended upon a free choice of physician basis.

3. County poor commissioners would collect \$1.00 per month per relief case from those KERC relief clients who desire medical care. These funds would be retained by counties until the end of each month, and then be forwarded to treasurers of county medical societies for distribution among physicians by a unit or equal dividend method.

4. All service except hospitalization, medicines, nursing, appliances and incidentals would be furnished for this amount.

5. Boards, composed of representatives of county medical societies and county commissioners, would be established for control of malingering and other difficulties.

6. Direct relief or county cases would be handled under a similar plan, or as county medical societies and county commissioners might agree.

As a test of practicability, the plan was submitted to the commissioners of several counties for criticism, all of whom offered endorsement for immediate installation in their counties. Also, approval was secured from the Workers Protective League, an official organization of Kansas relief workers.

With all difficulties therefore apparently solved, the committee met in Topeka on May 26 for final revision and for preparation of a detailed bulletin to all county medical societies. This bulletin was ready for release when KERC received the following telegram from Washington relief officials:

JOHN G. STUTZ, EXEC DIRECTOR KANSAS
EMERGENCY RELIEF COMM

AFTER GIVING CAREFUL CONSIDERATION
MEMORANDUM ACCOMPANYING YOUR AIR
MAIL LETTER THIS ADMINISTRATION STILL
DOES NOT FEEL IT CAN GIVE ITS APPROVAL
TO PRINCIPLES INVOLVED IN PROPOSED PLAN
STOP SUGGEST YOU HOLD ACTION UNTIL
FUTURE POLICY WITH RESPECT TO FURTHER
PARTICIPATION OF FEDERAL GOVERNMENT
IN MEDICAL RELIEF PROGRAM IS DETER-
MINED STOP WILLIAMS CONCURS

C. E. WALLER MD MEDICAL DIRECTOR

As a result, immediate presentation of the plan has been forestalled since KERC officials do not feel that they can proceed without Washington sanction. The committee, however, intends to hold further conferences with Governor Landon, and it is probable that representatives of the Society en route to Atlantic City for the A.M.A. convention will confer with Washington officials as to refusal of the plan, and details of any other plans contemplated.

COUNTY SOCIETIES

The Bourbon County Medical Society held a meeting on May 20 in Fort Scott with papers by Dr. Tom Hall, Kansas City, Missouri, on "Superficial Fungus Infection of the Skin"; Dr. Frank C. Neff, Kansas City, Missouri, on "Diagnosis of Certain Diseases of Childhood Especially the Contagious"; and Dr. George V. Herrman on "The Technic of Blood Transfusions in Infancy."

The quarterly meeting of the Central Kansas Medical Society was held on May 28 in Russell. The two speakers on the program were Dr. A. W. McAlester III, Kansas City, Missouri, who spoke on "Indications for Operations of Common Diseases of the Eye" and Dr. G. Wilse Robinson, who talked on "Physical Factors in the Development of the Psychoses."

Dr. J. F. Hassig and Dr. L. F. Barney, Kansas City, were guest speakers on the subject of "Economics" at a

(Continued on Page 260)

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meeting of the Coffey County Medical Society in Burlington on April 19.

Members of the Clay County Medical Society held a dinner meeting in Clay Center on May 15. The program included a talk by Mr. Wm. Beall, Clay Center, on "The Medical Profession As Seen by a Layman"; "Obstructions at the Neck of the Bladder", by Dr. R. L. Hoffmann, Kansas City, Missouri; and "The Acute Abdomen" by Dr. James Stowers, Kansas City, Missouri. Representatives from Washington, Cloud, Riley, Geary and Clay County Societies were present.

A meeting of the members of the Labette County Medical Society was held in Parsons on April 25 with Dr. C. C. Tucker, Wichita, as the principal speaker. Dr. O. C. McCandless, also of Wichita, gave a talk.

Dr. James P. Leake, Washington, D. C., was the guest speaker at a meeting of the Shawnee County Medical Society on May 7 in Topeka. He discussed "The Prevention of Smallpox" with a number of lantern slides to illustrate his talk.

A Tri-County Society composed of Sumner, Cowley and Kay counties held a meeting April 25 in Ponca City, Oklahoma. Principal speakers on the program included Dr. B. Y. Alvis, St. Louis, Missouri, who talked on "The Management of Dacrosystitis"; Dr. Arthur M. Alden, St. Louis, Missouri who discussed "Deep Neck Infections Secondary to Dental Disease in Lower Jaw." Other speakers included Drs. E. Lee Miller, Frank C. Neff, Paul F. Stockey, from the University of Kansas; Paul A. Scarpellino, Kansas City, Missouri; F. C. Helwig and Mr. A. N. Tracewell, Kansas City. The meeting lasted through the afternoon and evening.

The Wilson County Medical Society entertained Wilson county poor commissioners, the poor commissioner, and several relief staff members at a dinner meeting on April 23. Various phases of medical relief were discussed.

At the first May meeting of the Wyandotte County Medical Society held on May 1, in Kansas City, Dr. Douglas Owen, Vienna, Austria, spoke on "Vienna, the Mecca of Medicine in the Europe of Today." The talk was accompanied by movies of European travel and medicine. The second meeting was held on May 15 with Dr. H. V. Holter, Kansas City, as the principal speaker. His subject was "Etiology, Diagnosis and Treatment of Bleeding in Pregnancy."

Harper, Barber, and Kingman counties held their first Tri-county meeting on April 26 in Harper. Dr. Harry Lutz, Augusta, gave a paper on "What the County Society Can Do"; Dr. F. L. Menehan, Wichita, spoke on "Infant Feeding"; and Dr. Fred J. McEwen, Wichita gave an informal discussion on "Chronic Heart Failure." The next meeting is scheduled for around July 1.

ANNOUNCEMENTS

Members of the Kansas State Board of Medical Registration and Examination will hold their regular meeting on June 18 and 19 in Representative Hall in the State House in Topeka. The program will begin at 9:00 a. m. on Tuesday morning, June 18. Members of the Board are as follows: Drs. J. F. Hassig, Kansas City; C. H. Ewing, Larned; W. C. Burnaman, Washington; O. S. Rich, Wichita; H. E. Haskins, Kingman; J. D. Pace, Parsons, and E. C. Morgan, Clay Center. The executive session will be held at 1:00 p. m. on Tuesday.

MEMBERS

Dr. C. D. Blake, Hays, has recently been elected one of the directors of the state chamber of commerce.

DEATH NOTICES

Dr. S. T. Blades, 59 years of age, died at his home in Salina on May 6. He was born in Minneapolis, November 20, 1875, and received his medical training at the University Medical College, Kansas City, and was graduated in 1903. He lived in Salina for eighteen years serving in the offices of county physician and coroner, and was a member of the Saline County Medical Society.

Dr. G. W. Jones, 75 years of age, died at his home in Lawrence on May 1. He had been a physician in Lawrence for nearly forty years, coming from Ogden, Utah in 1896. He was born in Brooklyn, Iowa, February 21, 1860. He built his own private hospital after his practice grew to such size that he could no longer care for them in his first offices. He graduated from the Bellvue Hospital Medical College in New York in 1890 and specialized in surgery. He was a member of the Douglas County Medical Society.

MORBIDITY REPORT

New communicable disease cases in the state as compared with last month are reported by the Kansas State Board of Health as follows:

Disease	Month ending May 11	Month ending April 13
Measles	4783	6681
German Measles	2638	6104
Mumps	623	713
Pneumonia	483	277
Whooping cough	312	285
Chickenpox	310	346
Scarlet Fever	282	257
Smallpox	84	87
Syphilis	77	77
Tuberculosis	58	59
Gonorrhea	45	61
Diphtheria	40	46
Influenza	39	41
Pink-eye	18	15
Typhoid Fever	10	2
Scabies	9	1
Cancer	7	8
Meningitis	6	13
Encephalitis	5	1
Polioimyelitis	4	0
Vincent's angina	2	6
Undulant Fever	1	3
Tularaemia	1	1
Tetanus	1	0

BOOK REVIEW

MINOR SURGERY—W. Travis Gibb. Published by Paul B. Hoeber, Inc., New York. 429 pages, 148 illustrations. Price, \$5.00.

(Continued on Page 262)



MODEL 50



A belt or "binder" has been designed by Camp to hold with as much rigidity as possible the bony structure of the pelvis where there is abnormal separation of the symphysis pubis in pregnancy. While the garment is small, the back fully covers the sacro-iliac region, and, because of its adjustable firmness, is useful in cases showing an exaggerated relaxation of both the symphysis pubis and the sacro-iliac joints.

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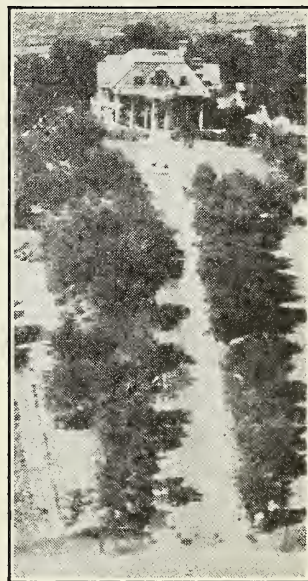
The most recent advance in electrotherapy is the adaption of the ultra-short wave to medical usage. These units, under the names of Radio Waves, Radio Therms have been in use, experimentally, for some time and, have been thoroughly tested.

These units can be used to replace all forms of electrotherapy, except radiant energy and the ultra-red waves. They have the heat-producing properties of diathermy—both local and general; they have the relaxing effect of high frequency and, can be adapted to nerve growth-stimulating work.

In hyperpyrexia, for the treatment of Dementia Paralytica, (paresis) arthritis and arteriosclerosis, they have all the advantages of generalized diathermy, such as controllability, electrical current transmission through the body, and general body fever, but, they are a distinct advance, in that the danger of burns has been eliminated; the patient can move and turn in the insulated bag and they are distinctly more effective.

The Robinson Clinic, in keeping with its policy of always offering the very best of tested therapeutic measures, has installed one of these Units. We are looking forward to more rapid and complete recoveries, shorter hospitalization time and less expense to our patients who come to us in the future, suffering from those conditions in which short-wave therapy is definitely indicated.

We can assure the profession of the Southwest that they will be satisfied with the results obtained with this type of therapy.



Airplane View

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**Nervous and
Mental
Diseases**

G. WILSE ROBINSON, M.D.
Medical Director
1432 Professional Building. 8100 Independence Road
Kansas City, Mo.

G. WILSE ROBINSON, JR., M.D.
Assoc. Medical Director

**Drug and
Alcohol
Addiction**

This volume, the first of a series of monographs to be introduced by the publishers under the editorship of Dr. Thomas L. Stedman, is one written primarily for medical students and general practitioners. Included are chapters on such elementary subjects as aseptic technique, sutures, dressings, and bandaging. Anesthesia, the treatment of shock and hemorrhage, and the other subjects usually included in the realm of minor surgery are considered. All are treated in a rather rudimentary manner, as it would obviously be impossible to give any comprehensive presentation of any part of the subject in a book of this size covering so large a field. This book will probably find its greatest application in the hands of physicians in isolated communities, who are working without the facilities of a general hospital of even average equipment.—O. R. C.

NEW BOOKS RECEIVED

THE PRINCIPLES AND PRACTICE OF UROLOGY by Dr. Frank Hinman, clinical professor of urology at the University of California Medical School. Published by W. B. Saunders Company, Philadelphia at \$10.00 per copy.

CLINICAL MANAGEMENT OF SYPHILIS by Dr. Alvin R. Harnes, chief of congenital luetic clinic, New York Hospital. Published by the Macmillan Company, New York, at 1.50 per copy.

EXCHANGES

Kansas, on May 1, was officially recognized by the U. S. Department of Agriculture as the nineteenth state practically free of bovine tuberculosis. The State was thus established as a modified accredited area—where tuberculosis among cattle has been reduced to less than one-half of 1 percent. The other states are North Carolina, Maine, Michigan, Indiana, Wisconsin, Ohio, Idaho, North Dakota, Nevada, New Hampshire, Utah, Kentucky, West Virginia, Washington, Illinois, Oregon, Virginia, and Minnesota.

The testing of cattle for tuberculosis has been speeded up in Kansas during recent months through the use of emergency funds provided by the Jones-Connally Act. This work resulted in the rapid completion of testing in thirty-one counties which enabled the State to achieve its tuberculosis-free status. Officials who directed the work have commented on the splendid spirit of cooperation on the part of the cattle owners throughout the State.—Dept. of Agri. Bulletin.

WOMAN'S AUXILIARY

The meeting of the Woman's Auxiliary May 8 and 9 in Salina was the largest attended in the history. Reports at the Board and Council meeting gave evidence that all auxiliaries were functioning actively.

The following officers were elected at the annual meeting for the ensuing year: Mrs. Milton O. Nyberg, Wichita, president; Mrs. L. B. Gloyne, Kansas City, president-elect; Mrs. W. Y. Herrick, Wakeeney, first vice-president; Mrs. N. E. Melencamp, Dodge City, second vice-president; Mrs. W. H. Young, Fredonia, recording secretary; Mrs. E. F. Clark, Belle Plaine, treasurer.

Dr. E. J. Nodurft, Wichita, was the guest speaker at the luncheon at Marymount College where Mrs. W. G. Emery, retiring president, delivered her valedictory address and Mrs. Nyberg her salutatory address. Music was furnished by students of Marymount College.

On Thursday, May 9, the ladies were entertained with a luncheon bridge at the Salina Country Club after the board meeting. Musical numbers were given by members of the Salina high school. The ladies joined the doctors at the dance and banquet in the evening.

SALUTATORY ADDRESS

Members of the Kansas Medical Auxiliary and Friends—Upon this tenth anniversary of the Kansas Medical Auxiliary I bring you greetings.

There must always be pioneers in any undertaking and those ladies to whom the credit is given for our organization were a group formed in central Kansas in 1924 and who led in the organizing of the state in Topeka in 1925. Our meeting here to-day is fraught with friendliness and good will toward our pioneers and our other workers. Without this feeling of good will our organization could not have attained the present heights.

Much has been accomplished in the past years in the addition of new members to our society. There has been a well rounded growth not only in increased membership but in the interest shown throughout the state. While we find some communities more or less apathetic towards organization we hope that in the very near future we may have a state membership of 100 per cent.

I wish to commend those ladies who have given so liberally of their time and means, through these years, for the furtherance of our Auxiliary. May I ask your continued interest and support during this coming year as I shall need your help to keep this organization progressing as splendidly as it has heretofore.

I regret my acquaintance over the state is so limited but hope to know personally all my workers before this year is ended. I shall welcome suggestions and plans which will be advantageous to our Auxiliary in its purpose to serve the Medical profession. It would seem to me we might arouse the interest of our husbands in our Auxiliary more, to the ultimate good of both.

There is a feeling among some of the profession and the laity that the Art of Medicine is at the crossroads. If the standards of Medicine are to be maintained it will require not only the best efforts of the medical profession and the Auxiliary but their friends as well. Charlatans, pseudo physicians, health insurance, and isms of all kinds abound on every hand. If this ever rising tide is to be

(Continued on Page 264)

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stemmed the Medical Auxiliary is to play no small part in bringing the ship of "Medicine" safely into harbor with the medical profession at the helm.

As an Auxiliary we have no other purpose than to be of help to our husbands' profession and the public health and welfare. At no time in the history of medicine has it been so essential for all to work together for the ultimate good of the noble art and science of medicine.

It is my sincere hope that every member of the Kansas Medical Auxiliary will bend their efforts towards the furtherance of the work now in hand and may we be the means of blotting out petty jealousies that exists too often among the medical brethren.

To our hostesses who have planned these social courtesies as visitors may I say we appreciate your kindnesses and thank you.

MRS. MILTON O. NYBERG, President.

The Brown County Medical Auxiliary held a joint dinner meeting with members of the society on April 26 in Hiawatha. Following the dinner the auxiliary held their meeting with Mrs. Gordon Emery, vice-president, presiding in the president's place. Mrs. Paul Conrad, secretary, read the news letter from the state president, and Mrs. Emery, Mrs. Wyatt and Mrs. Conrad were elected delegates to represent the Brown County Auxiliary at the state meeting in Salina, May 8-9. The Auxiliary voted to give magazines and books to the relief library being established by Miss Helen Lawrence, assistant case supervisor. The doctors wives were hostesses for the child health clinic held May 1. Mrs. R. T. Nichols gave a review of the book "Green Light" by Lloyd Douglas.

The Labette County Medical Auxiliary met at the home of Mrs. J. D. Pace April 24, in Parsons. The meeting was called to order by the president, Mrs. C. N. Morrow. Roll call was made by requiring each member present to respond with some late invention or discovery pertaining to medicine or the medical profession. A number of topics were discussed and a paper was read by Mrs. M. C. Ruble on "The Early History of Medicine." The May meeting will be held at the home of Mrs. T. D. Blasdel, Parsons.

CLASSIFIED ADVERTISEMENTS

FOR SALE: A Victor x-ray, ten-inch capacity, fluoroscopic table, vertical fluoroscope, stereoscope, tubes and other equipment. Address Dr. C. W. Lawrence, Emporia, Kansas.

FOR SALE: Fischer X-ray machine. Type, 2-A. Voltage 220. Cycles, 60. Amps. 20. Killowatts 5. Seven inch Coolidge tube. 11x14 inch screen. G. W. Phegley, Lincoln, Kansas.

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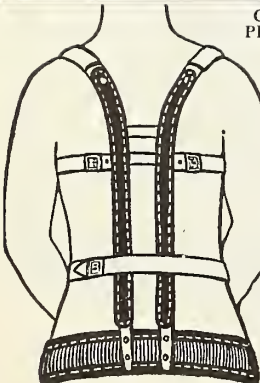
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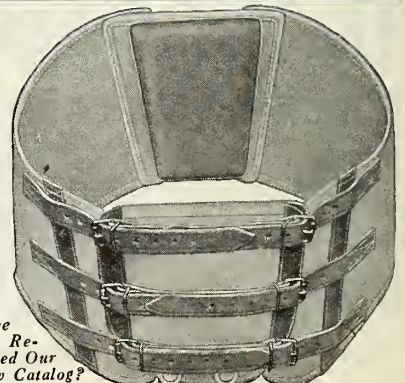
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No. 7

TUMORS OF THE HEART†

FERDINAND C. HELWIG, M.D.*

Kansas City, Kansas

In a series of 1000 necropsies held at St. Luke's Hospital, nine tumors of the heart were observed. In this series, certain interesting clinical and pathologic findings were present which would seem to warrant reporting.

In 1931, Wallace Yater¹ reviewed practically all of the literature on the subject of cardiac tumors. In this comprehensive summary he compiled almost 150 references from the literature from which he collected more than 150 cases of primary cardiac tumors. In his report, he added nine cardiac tumors to the literature, three of which were primary.

Combined statistics from a large and diversified number of necropsy records show that primary and secondary tumors of the heart are both comparatively rare. In such a combined summary of approximately 41,000 autopsies, only ninety-eight secondary metastatic malignancies were recorded. The figures given by different authors, whose statistics make up this entire series, vary greatly. The incidence ranges all the way from three cases in 8500 necropsies² to twenty-five cases in 1708 necropsies.³ Since the figures in this last reference were not available to us, we are not certain whether this rather high incidence refers to 1708 malignancies with twenty-five cardiac tumors, or 1708 post mortems with that number of cardiac tumors. This is particularly open to question when we find that Karrenstein,⁴ at the Roth Institute of the University of Berlin, observed only nineteen secondary cardiac tumors in a series of 6555 necropsies, and Uskoff⁵ found but one such case in 4500 necropsies. For more complete summaries of the incidence

and the primary sources of these tumors, Yater¹ mentions the articles of Peters and Milne,⁶ Ely,⁷ Blumensohn⁸ and others which should be consulted. In this latter regard, it should be mentioned that metastatic malignancies have sprung from almost every common primary source.

There are a number of very interesting pathologic findings in the study of these relatively infrequent tumors. Karrenstein⁴ records that 7.5 per cent of all malignancies showing extensive metastases also show cardiac involvement. In our own series of necropsies, the incidence is about nine per cent. Secondary tumors undoubtedly reach the heart through the blood stream in most cases, although direct extension from primary pulmonary tumors and lymphatic spread of a retrograde nature have been described in a few cases. One very interesting finding has been the marked preponderance of involvement of the right heart with metastatic malignancies. This has been explained by the use of profusing solution under 130 mg. of mercury being run through the coronary arteries. As in the experiment carried out by Kretz,⁹ only one-fifth of this fluid returned through the coronary veins, while four-fifths was carried into the cardiac chambers through the thesbian veins. Of this one-fifth escaping through the coronary veins, only one-fifth went to the left and four-fifths through the right vessel. This seems to explain the frequency of lodgement of tumor emboli in the right side. Moreover, another point of interest is the rarity of valvular involvement. This might be explained by the paucity of valvular vascularity.

In evaluating the symptomatology of heart tumors, it has been a fairly general observation of most of those who have recorded such cases that there is very often surprisingly little clinical evidence of cardiac dysfunction manifested, even in the face of extensive cardiac involve-

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*University of Kansas School of Medicine.

ment. A number of ideas have been brought forward to explain this somewhat puzzling fact, one of which is that the growth of tumors in the heart is slow and hence compensatory changes take place. But there are many startling examples of massive invasion, such as seen in those instances where the entire wall of a ventricle or auricle had been found to be completely replaced by tumor, when no clinical evidence of any heart invasion was noted. The infrequency of cardiac neoplasms has been ascribed to the constant activity of this organ, thus making lodgement of emboli a rather difficult matter. Some of our cases showed striking myocardial involvement and in certain instances the condition of the heart muscle might have been suspected clinically although it was only after a complete necropsy that the cardiac manifestations during life were explained.

Yater,¹ in considering the symptomatology, has evolved a classification of his own which we think covers the subject quite adequately. It is as follows:

- A. Clinical types not suggestive of tumor of the heart.
 1. Absence of symptoms referable to the heart.
 2. Symptoms of cardiac embarrassment terminally.
 3. Symptoms of congestive heart failure.
 4. Sudden death.
 5. Symptoms suggestive of subacute bacterial endocarditis.
- B. Clinical types suggestive of tumor of the heart.
 1. Heart block.
 2. Symptoms referable to location of the tumor other than heart block.
 3. Symptoms of cardiac dysfunction developing without apparent cause in a patient with a known malignant process.
 4. Accumulations of hemorrhagic fluid, pericardial and pleural.
 5. Suggestive roentgen observations.

A review of this brief summary might be useful. The majority of our cases come under Class A, 1 and 2. In five instances there were symptoms of terminal cardiac embarrassment or heart failure, and in none was there sudden

death, which latter has been recorded from sudden occlusion of one of the coronary orifices by a pedunculated tumor or by coronary embolism or thrombosis. In none of our cases were there any symptoms suggestive of bacterial endocarditis, although in those instances in which such symptoms have been observed, tumor metastasis in one of the cavities had thrown off small neoplastic emboli into the circulation, resulting in a picture suggestive of endocarditis. In our two cases of leukemia, fever and chills were present, as well as petechial hemorrhages, but no tumor masses encroached into the cardiac chambers, and the symptoms were considered to be merely the common findings of moderately acute leukemia, the cardiac manifestations being disregarded, overlooked, or not properly evaluated.

In Class B, Yater¹ mentions some very interesting clinical manifestations, of which the following are especially striking. Heart block has been observed several times from primary tumors or metastatic malignancy involving secondarily the auriculoventricular node or some portion of the bundle of His. Moreover, as a result of some peculiar anomaly of symptomatology, symptoms referable to the location of the tumor in the heart have been deduced as a result of such involvement. For example, a tumor of the left auricle that involves the pulmonary veins may produce pulmonary circulatory embarrassment, cyanosis, cough and dyspnea out of proportion to the edema, such as was encountered in Justi's¹⁰ case. Binder's¹¹ case, also, is interesting. Here the right auricle was practically filled with a primary sarcoma and edema began in the face, extended to the thorax and then to the legs. Likewise, in Ehrenberg's¹² case, there were present dyspnea, cyanosis and edema of the upper half of the body with enlargement of the veins of the sternum, and a tumor was found filling the right auricle and the vena cava. A somewhat analogous situation was found in one of our cases where the superior cava, a portion of the right auricle and both jugulars were occluded. Yater,¹ also mentions that signs of obstruction in certain parts of the cardiac apparatus with greatly increased dullness may suggest a large sarcoma of the heart. He also states that the symptomatology of large pedunculated intracavity tumors, usually of myxomatous or sarcomatous type, which have a tendency to occlude an intracardiac orifice, may simulate mitral or tricuspid disease. Such lesions may possibly be diagnosed

because of the lack of a rheumatic history and the inability of digitalis to aid the progressive failure, as well as the fact that the physical signs may change with change of position. For example, sudden attacks of intense dyspnea or paroxysms of cyanosis may occur with changes of position. Moreover, he mentions that signs of pulmonary stenosis as an acquired lesion are highly suggestive because this condition is nearly always congenital.

Naturally, one should be on the alert to make a diagnosis of cardiac neoplasm in any patient with a known malignancy, particularly when this tumor is disseminated and any sudden cardiac symptoms occur.

CASE REPORTS

Case 1. Malignant hydatoma (service of Dr. Cleo Bell). Mr. C., age fifty-eight, a white laborer, was first seen one month prior to death because of loss of weight and pain in the epigastrium. The entire abdomen was tender but a large epigastric mass was palpable which was thought to be a very large liver.

At necropsy (33-97), about 1000 cc. of bile stained fluid was present in the abdomen. The liver was enormous, hard and nodular, and riddled with small cellular indurated tumor masses of a pale white color. Small metastatic nodules were seen in the lungs. The heart was found to be considerably enlarged and cellular foci were seen scattered throughout the myocardium.

Histologically, the tumor was found to be a very undifferentiated carcinoma, highly vascular and undergoing considerable necrosis with a weak attempt at production of an acinar-like structure in places. Many atypical nuclear forms were seen and there was an apparent attempt on the part of the tumor cells to reduplicate the hepatic parenchyma in some fields. Bile production was present and the cells were found in some instances to be lying upon sinusoid-like endothelial-lined spaces. This latter structure was largely lost in the infiltration of the myocardium. (Fig. 1)

Case 2. Carcinoma of the breast (service of Dr. P. T. Bohan). Mrs. H., age sixty, entered the hospital with a history of having had a radical amputation of the breast three years previously with a diagnosis of cancer. Recently she had been losing weight markedly, but her most troublesome symptom was a lump in the throat which strangled her when she drank water. She also had progressive blindness.

At necropsy (30-17), metastases were

found in the brain involving the basal nuclei, white substance and optic thalamus. The thyroid, liver, gall bladder serosa and vertebrae all showed tumor noduli. The subpleural lymphatics were extensively involved by tumor and the lungs were moderately atelectatic. There were about 1500 cc. of bloody exudate in both chest cavities. The trachea and esophagus were constricted by a circular tumor mass which involved the mediastinal and cervical glands and extended down under the manubrium about four cm. The heart was not enlarged and a subepicardial carcinomatous infiltration was seen extending into the muscle of the left auricle but the cavity of the heart had not been invaded.

Histologically, an extensive infiltration of the entire thickness of the heart wall was seen. Small dense pyknotic tumor cells were found lying in a moderately dense stroma. (Fig. 2) The lungs, liver, pancreas, gall bladder, brain, lymph nodes, thymus gland and one adrenal all showed metastatic tumor involvement.

Case 3. Carcinoma of the lung (service of Dr. L. E. Wood). Mr. H., a white male, age fifty-three, had a nervous breakdown four years ago from which he recovered and was well until six months before he was seen by a doctor, at which time he complained of fever in the afternoon, pain in his right shoulder and cough. Roentgenograms at this time revealed a cavity in the right pulmonary apex. He was diagnosed tuberculosis and a pneumothorax was done. He did not improve and about five weeks before death he began to develop edema of both sides of his face and neck. This was followed by marked prominence of the veins of the neck and of the abdominal wall. About a week before death he developed cyanosis of the skin of the upper part of the chest and face.

At necropsy (31-38), the right lung was collapsed and adherent to the chest wall posteriorly and laterally. In the right upper lobe, there was a cavity about the size of an orange, surrounded by a very dense indurated wall and filled with necrobiotic, yellowish-gray material and exudate. Yellow nodules were found on the lateral chest wall. The left lung was not noteworthy. The right main bronchus was filled with a tumor mass which extended out into the large mass in the lung apex. The tumor had eroded into the superior vena cava and almost completely filled it, and both innominate veins were occluded by thrombi. The hilar

nodes were also enlarged by tumor infiltration. The epicardium was covered with a fibrinous exudate. Gross inspection revealed a diffuse infiltration of tumor into the muscularis, particularly on the right side.

Histologically, the tumor had the characteristics of an anaplastic squamous cell carcinoma. All of the nodules seen in the gross were of the same morphology. Many areas in the myocardium showed necrosis and separation of the muscle fibers by infiltrating nests of tumor cells. (Fig. 3)

Case 4. Hypernephroma (service of Dr. John Hayden). Mr. C., age sixty, when first seen was complaining of backache and pain in the right groin. These symptoms came on suddenly two months previously while lifting a lead battery. He had had blood in the urine on several occasions. On entry to the hospital, his chief complaints were weakness, dyspnea, swelling of the ankles and precordial pain. A mass was palpable in the left side of the abdomen in the region of the left kidney, and he was quite anemic. There was blood in the urine. Roentgenographic examination revealed boney involvement of the spine with the type of destruction seen in metastases from hypernephroma.

At necropsy (32-5), a large mass the size of a clenched fist involved the upper pole of the left kidney. Both adrenals were replaced with tumor. The left renal vein was filled with a tumor thrombus which extended to the vena cava. Metastases were found on the surface of the peritoneum at the costochondral junction of the ninth rib, and the eleventh and twelfth dorsal and first and second lumbar vertebrae were invaded. The tumor mass involving these four vertebrae extended into the spinal canal and implants were present on the cauda. The heart showed many small whitish yellow polyps bulging into the lumen of the left ventricle from the apex. These tumors varied from 1.5 to 1 cm. in diameter and were invading the myocardium. On cross section, the myocardium showed many foci of infiltration. The appendage of the right auricle was completely filled with a tumor mass. The heart was not enlarged and weighed only 265 grams.

Histologically, the primary tumor was made up of vacuolated and clear cells considered typical of hypernephroma, while the metastases, particularly those in the myocardium and bone, had taken on a spindle form type of anaplastic growth and showed some nuclear variation and

hyper- and hypochromatism. Very little cytoplasmic vacuolization was seen in these metastatic cells. (Fig. 4)

Case 5. Lymphosarcoma of the thymus (service of Dr. T. E. Lilly). Mr. B., age forty-one, an Italian laborer, was first seen because of dyspnea and pain in the left chest which had been present for about two weeks. He had a non-productive cough; otherwise, his complaints were not striking. On examination, the lower three-fourths of the left side of the chest was completely flat. On several occasions, five to six quarts of bloody fluid were aspirated from the right chest. This fluid would reaccumulate in as short a time as five days; hence, continuous drainage was instituted. The chest fluid contained large numbers of immature lymphocytes.

At necropsy (33-119), small white tumor implants were found over the liver and diaphragm, and in the substance of the kidneys. In the chest, the heart and mediastinum were pushed to the right. In the midline, hanging down over the pericardial sac like a large thick apron, was a white mass about five cm. thick in places. The mass extended out onto the pleural surfaces of the lung and when the pericardial sac was opened small implants were found at the base of the great vessels, in the cardiac muscle, and under the pericardium at the apex of the heart.

Histologically, the tumor showed a diffuse growth of small immature lymphoid cells. Topographically, the primary tumor seemed to arise from the thymus. The tumor infiltration in the heart was of small round lymphoid cells lying in a loose reticulum. The extension seemed to start from the epicardium with secondary myocardial involvement of a rather minor degree. (Fig. 5)

Case 6. Leukosarcoma (service of Dr. Herbert Mantz and Dr. J. D. Smith). Mr. T., age thirty-eight, a salesman, was first seen because of weakness and a very severe stomatitis. Examination showed a high grade anemia and the differential blood count revealed many large unclassified cells which were considered to be either lympho-blasts or premyelocytes. The total count varied considerably, ranging between 3,000 and 25,000. Myelocytes were found on several occasions, being present in numbers ranging from one to ten per cent, and the polymorphonuclear neutrophils varied from six to sixty per cent. The blood picture was constantly changing. The patient devel-

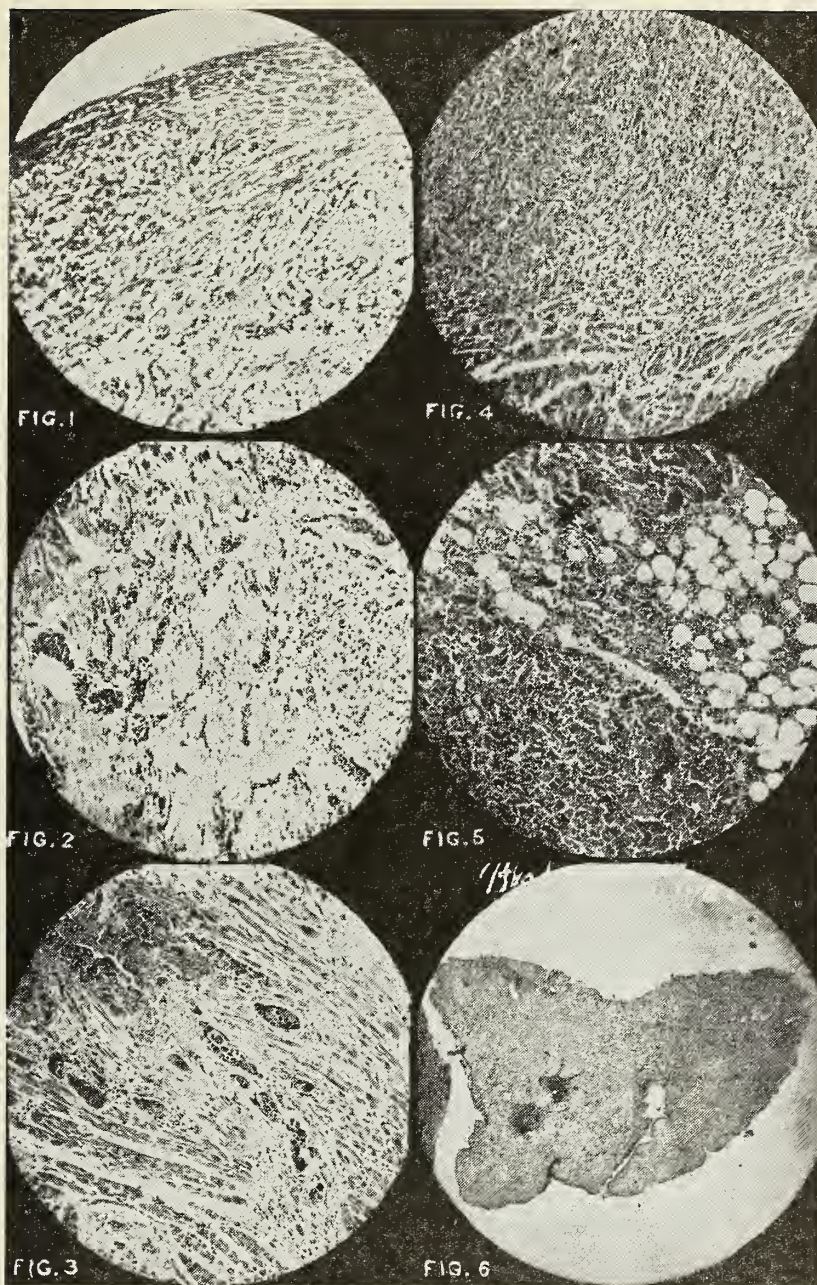


Fig. 1. Low power photomicrograph showing malignant hepatoma invading the myocardium.

Fig. 2. Low power photomicrograph showing metastatic carcinoma from the breast infiltrating the heart muscle.

Fig. 3. Low power photomicrograph showing squamous cell bronchogenic carcinoma invading the myocardium.

Fig. 4. Low power photomicrograph showing metastatic hypernephroma in the myocardium. Note high degree of anaplasia.

Fig. 5. Low power photomicrograph showing lymphosarcoma primary in the thymus gland, invading the pericardium and extending into the myocardium.

Fig. 6. Very low power photomicrograph of pseudomyxoma of the pulmonary valve.

oped a progressive anemia followed by extensive bleeding from the mouth and gastrointestinal tract, and on two occasions a total count of 50,000 white cells was obtained.

At the necropsy (34-10), anemia and emaciation were marked. Cervical, axillary and inguinal glands and subcutaneous nodules were present. The liver was enlarged and many large glands were found around the pancreas. The spleen was enormous and on cross section showed a pink cellular pulp and one small infarct. All of the abdominal glands were large, and the kidneys were large and pale. In the chest, early pneumonia was found. The marrow of the pipe bones was pink and cellular. In the pericardium, subepicardial hemorrhages were present. The myocardium was pale but no focal infiltrations were seen.

The histologic study was very interesting. The muscle, skin, liver, lungs, kidneys, testicles and heart all showed two types of infiltration; namely, a myeloid cell infiltration and a very interesting type of nodular infiltration. The myeloid cells showed the characteristics of a heteroplastic leukemic infiltration while the other foci, particularly those in the liver, epicardium and testicle, showed a fine reticulum separating the tumor cells. In many instances, the cells were seen to be attached to this reticulum, giving a picture strongly suggestive of reticulum cell lymphosarcoma. The bone marrow showed merely myeloid hyperplasia. The heart showed extension of this reticular tumor growth from the epicardium into the myocardium with some breaking up of the muscle fibers.

Case 7. Acute lymphatic leukemia (service of Dr. Carl Ferris). Mr. C., a salesman, twenty-four years old, had been weak and exhausted for three weeks when he first came under observation. At this time he was short of breath and quite anemic. There was a soft systolic murmur at the apex and he had enlarged cervical glands. The blood picture on entry ranged from 6000 to 9000 white cells and about ninety per cent to ninety per cent of the cells were immature lymphocytes, many of them large and ragged appearing. He developed fever and an increasing anemia and terminal bleeding from the mucous membranes. During the last days, the white cell count mounted to 100,000, showing most of the cells to be immature lymphocytes. Some days before death he developed a very striking dyspnea, more of the character of a marked hyperventilation

which seemed out of proportion to the low grade edema which he had present.

At the necropsy (33-13) the body was well nourished but very anemic. Pinhead sized petechiae of the skin were numerous. Blood tinged fluid was present in the belly cavity and ecchymotic hemorrhages were seen scattered over the peritoneum, pleura and both surfaces of the pericardium. Glands were everywhere large and numerous, ranging in diameter from the size of a dime to the size of a silver dollar. The liver was quite large, weighing 3180 grams. It was very pale and obviously the seat of a diffuse cellular infiltration. The spleen was likewise enormous, weighing 1500 grams, and it presented a light red very cellular pulp. Both kidneys were quite large, pale and obviously the seat of a cellular infiltrating leukemia. The pancreas was particularly noteworthy. The head was as large as a man's fist and the entire pancreas was so diffusely infiltrated that the lobulation was almost invisible. In the chest, free fluid was present in both cavities. The hilar glands were not strikingly involved. Abundant red marrow replacement was found in the pipe and flat bones. The right auricle was greatly thickened, suggesting cellular infiltration. The muscle of the myocardium was thick and pale, and of a streaked appearance with many focal areas of a pale grayish color, suggesting a heteroplastic infiltration.

Histologically, those organs which were observed in the gross to be infiltrated were found to be the seat of a very striking heteroplastic infiltration. The myocardium in particular showed a very massive cellular invasion with separation of the fibers and degeneration. The same was true of the liver, spleen, kidneys, lymph glands and pancreas.

Case 8. Myelogenous leukemia (service of Dr. G. H. Hoxie). Mrs. G., age forty-five, had not been well for six months following an attack of influenza. For the past three weeks she had grown very weak and was very short of breath and had a cough. On examination, the patient was quite pale, had a very rapid weak pulse, and marked dyspnea was present. The hemoglobin was only twenty-seven per cent, 1,240,000 RBC, and the WBC were 90,000 with seventy-two per cent myeloid cells. On the second hospital day, the red cell count fell to 800,000 and the white blood cells were 92,000 with eighty-five per cent of them myeloid cells.

At necropsy (28-35), the neck glands were

found to be enlarged. The spleen likewise was quite large, weighing 430 grams. The heart showed a very pale myocardium, considerable tigering, and a small marantic thrombus was found in the left auricle behind the valve of the foramen ovale. Extreme edema of the lungs was present.

Histologically, a most striking picture was seen in the heart. There was a massive heteroplastic infiltration of myeloid cells and marked myocardial degeneration. The lungs showed high grade edema and early pneumonia, and in the exudate myeloid cells were abundant. Massive heteroplastic myeloid infiltrations were also found in the spleen, liver, kidneys, adrenals, G-I tract and lymph glands, while the bone marrow of the long bones showed a striking erythropoiesis and leukopoiesis.

Case 9. Primary pseudomyxoma of pulmonary valve (service of Dr. H. A. Breyfogle). Baby P., a newborn, female, was supposed to be a full term child. The mother was a primipara over forty years old. At birth, the child weighed only three pounds, and had numerous spells of cyanosis which were so frequent that it was cyanotic most of the four hours during which it lived. It had considerable respiratory difficulty but no cardiac murmurs were made out.

At the necropsy (30-11) the lungs were found to be the seat of semiconsolidation due apparently to amniotic aspiration. The pericardial sac was greatly distended and the right auricle and ventricle were dilated. When the heart was opened, one of the cusps of the pulmonary valve was found to be replaced by a ball-like tumor mass which almost occluded the pulmonary aorta. There was an incomplete closure of the interventricular septum and an edematous ring of endocardium surrounded this aperture. The foramen ovale and ductus Botalli were both patent.

Histologically, this ball-like tumor on the pulmonary valve showed a loose edematous stroma with very many young connective tissue and myxomatous cells buried in it. (Fig. 6).

COMMENTS

Carcinoma is by far the most frequent secondary neoplasm of the heart. In the three cases showing this type of involvement (Cases 1, 2, and 3), only the bronchogenic carcinoma (Case 3) presented symptoms of such character that the possibility of cardiac involvement might have been diagnosed clinically with any degree of certainty. No evidence was sug-

gested of any cardiac metastasis in Case 1, the malignant hepatoma, or in Case 2, the primary breast cancer.

Case 4, the metastatic hypernephroma, is interesting from both a clinical and pathologic viewpoint. The striking tendency of this type of malignancy to invade the renal vein and vena cava is well known. There are some cases on record where the tumor thrombus extended as a solid column in the vena cava to the right auricle, filling the latter with a solid tumor mass. Another finding, which is at times characteristic of this type of neoplasm, is the striking anaplastic tendency in the metastatic foci. In the present instance, one could scarcely have been able to guess the primary source from a histologic study of the myocardial invasion. Clinically, precordial pain, dyspnea and edema of the feet were probably due to heart failure resulting from myocardial involvement, and this might have been suggested had the possibility of cardiac metastasis been considered in the evaluation of the clinical symptoms. A large retroperitoneal mass was known to be present; and, although pulmonary metastases were found, they were of insufficient size to account for all of the symptoms. This tumor bulged into the lumen of the ventricle in the form of polypi and it is quite possible that these formed the nidus for the many metastatic foci.

Case 5, lymphosarcoma, presented such a massive pulmonary involvement that all of the respiratory embarrassment was probably due to extra-cardiac causes. The cardiac invasion in this instance was chiefly epicardial, and there was only a minor degree of extension into the myocardium.

Case 6, leukosarcoma, presented no evidence, even terminally, of cardiac embarrassment and there was only a moderate degree of muscle destruction. It is rather interesting, however, that the invasion in the myocardium and pericardium was of the neoplastic rather than the diffuse heteroplastic type of myeloid cell infiltration usually found in leukemia, as in Cases 7 and 8.

In case 7, acute lymphatic leukemia, the terminal symptoms of dyspnea, marked hyper-ventilation, low grade edema and the rapid pulse might easily have been the result of the almost unbelievable leukemic involvement of the myocardium. The same was undoubtedly true in Case 8 where not only was the heart muscle the seat of a very massive involvement,

but there was a very striking degeneration of the muscle fibers and large areas of myomalacia. Interestingly enough, this patient's chief complaint was marked dyspnea, accompanied by a rapid pulse, which was out of all proportion to the pulmonary involvement.

In Case 9, the primary pseudo-myxoma, there is some question as to whether this represents a true tumor or not. Moreover, there is also some question as to whether or not it was in any way productive of any of the cyanosis observed during life. The literature on the subject of myxomas is highly controversial. In a recent article M. Muller,¹³ who has reported four cardiac myxomas, is under the impression that these tumors may, in certain instances, represent thrombi which have undergone myxomatous transformation. Our tumor can be seen microscopically to be nothing but a markedly edematous valve cusp; and if it had an inflammatory basis, we must hypothesize a fetal endocarditis. Some of these tumors in newborn infants have been considered to have this pathogenesis. Among the recorded primary cardiac tumors, in addition to myxomas, have been fibromas, sarcomas, lipomas, endotheliomas and a few rare rhabdomyomas. By far the most common, however, are the myxomas.

SUMMARY AND CONCLUSIONS

Nine cardiac neoplasms are here recorded. All are metastatic except one myxoma, and in this last case it is questionable whether or not a true neoplasm is represented.

In one case it might have been possible to diagnose the metastasis and in one instance the clinical symptoms were suggestive. In three cases, which showed marked cardiac involvement, the symptoms could be readily explained upon the basis of the cardiac lesion.

In four cases, no symptoms referable to the heart were obtained.

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AURICULAR FIBRILLATION*

CHAUNCEY MAHER, M.D.†

Chicago, Illinois

Auricular fibrillation has been chosen as a subject for this discussion because of the frequency with which it is encountered as a part of cardiac disease, and also because of the serious aspect that it adds to the patient's prognosis.

Auricular fibrillation is a state of abnormal cardiac physiology in which the auricles have lost their normal contractability. The auricular musculature is in a state of fibrillary twitching from which the entity derives its name. The role of the pacemaker (Sino-Auricular Node) is usurped by the auricular activity which sends forth stimuli to the ventricles at a rate of 400 to 600 per minute. The ventricles respond to these auricular stimuli at irregular intervals. The ventricular contraction rate varies from 40 to 180 per minute.

There are several theories concerning the abnormal physiology of auricular fibrillation. The older and better known one was advanced by Sir Thomas Lewis of the University Hospital in London. His theory is concerned with what he terms "circus movement in the auricles." It implies that a stimulus arises in an ectopic auricular focus and pursues a very rapid rate and course about the venous openings in the right auricle.

Our own theory of auricular fibrillation is that it is a composite auricular flutter. We believe that in auricular flutter, which is closely related to auricular fibrillation, there is an ectopic or irritable focus in the auricular muscle which gives rise to impulses at the rate of 200 to 400 per minute. In auricular fibrillation there are two or more ectopic foci within the auricles originating these impulses, each of which is an auricular flutter mechanism.

From a clinical standpoint we recognize that there are various types of cardiac disease in which auricular fibrillation is present as a complicating abnormal physiological mechanism. The most frequent type of heart disease with which it is associated is rheumatic mitral stenosis. Next in frequency is hypertensive vascular disease in which auricular fibrillation develops after years of high blood pressure. The patient

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†Assistant Professor in Medicine, Northwestern University.

who has a goiter with thyrotoxicosis not infrequently develops auricular fibrillation as a complication. Patients who have sustained an occlusion of a coronary vessel with myocardial infarction frequently develop this type of abnormal physiology. Any type of toxemia such as that resulting from prostatic obstruction may develop auricular fibrillation. It is sometimes present in the more acute infections, such as pneumonia, typhoid fever or influenza. It may result from the abuse of digitalis. Rarely, we see a patient in which there is no demonstrable structural cardiac damage.

Auricular fibrillation may be classified into two main groups: 1. Paroxysmal. 2. Chronic. The chronic type is the more frequent but it is usually preceded by the paroxysmal type, which often escapes observation.

Perhaps it is academic for me to review the symptoms and the pathognomonic findings which characterize auricular fibrillation. The very striking absolute irregularity of the cardiac beat at the apex or of the wrist is sometimes sufficient to make an accurate diagnosis. Frequently, however, its recognition is not so simple.

The paroxysmal type of auricular fibrillation is most easy of detection. In these cases the onset is extremely abrupt. The individual suddenly notices that his heart begins to beat rapidly, and, if he is a careful observer, notes that it is irregular. The majority, however, fail to recognize the irregularity. The paroxysm of tachycardia may persist for only a few seconds or minutes or it may last for hours, or days, or even become permanent. Frequently the patient complains of dyspnoea, cough, tightness in his chest and sometimes collapse. Abdominal symptoms may be present with pain in the abdomen, nausea, vomiting and loss of appetite, particularly when there is acute cardiac failure and sudden engorgement of the liver. As a rule paroxysmal auricular fibrillation lasts for a short period of time and recurs at frequent intervals until finally the mechanism persists and becomes a chronic one. After a number of days or weeks of persistent auricular fibrillation the patient usually adjusts to the abnormality and is less mindful of his symptoms.

The onset of chronic auricular fibrillation is usually preceded, as has been described, by these paroxysmal attacks. However, many individuals with established auricular fibrillation present themselves for examination who have no recollection of its onset, and it would appear

that it has been a rather quiet and gradual affair. This is probably not true, and it is more likely that the patient has forgotten the storminess of the onset by the symptoms which have followed. In these chronic cases, the symptoms referable to the irregularity alone are few. Palpitation may be noted and occasionally the individual has recognized that his heart beats irregularly. More often the symptoms present are those of associated cardiac failure, such as dyspnoea, weakness, cough and edema of the extremities.

On physical examination, when the rhythm is studied at the apex with a stethoscope on the chest, the gross and absolute irregularity of the rhythm will be readily noted. Seldom are two beats of the same intensity. When the blood pressure is taken, one detects a difference of intensity in the beats. One beat comes through loudly, the next one is weak and each one differs from its fellow. If one counts the rate at the apex and the pulse rate at the wrist a deficit of from ten to forty beats may be found. These findings are the characteristic picture of auricular fibrillation. When the ventricular rate varies between sixty and eighty, the gross irregularity is not as obvious, and, if the rate be as slow as forty (which is not uncommon) the irregularity passes almost unnoticed. In teaching students how to detect this irregularity, a simple method has been developed of increasing their perception. They are instructed to place the stethoscope over the chest and mark each cardiac contraction with a movement of the index finger placed within their range of vision. We have found that their visual perception of the irregularity is much greater than their ability to hear it. Increasing the cardiac rate by exercise of the patient makes the irregularity more pronounced. By simply having the bedridden patient sit up and lie down two or three times, one can increase the rate materially, and render the arrhythmia more obvious.

In the majority of cases there is no necessity of differentiating auricular fibrillation from other types of arrhythmia. Patients with a very slow rate may simulate a heart-block with a slow rate. Rapid auricular flutter must also be differentiated from auricular fibrillation. Patients who have a marked sinus arrhythmia with frequent extrasystoles may simulate auricular fibrillation. Frequent dropped beats in partial heart block may offer the same difficulty. Differential diagnosis is best made by means of an electrocardiogram.

In general the prognosis of auricular fibrillation is serious. It is serious because auricular fibrillation usually develops in the end stage of any type of cardiac disease. The patient with valvular disease who has developed auricular fibrillation is usually near the end of his pathway. The same applies to hypertensive vascular disease. In patients with thyrotoxicosis who have developed auricular fibrillation an exception to this general rule is found. The majority of these patients, when relieved of their goiter by surgery, usually revert to a regular sinus mechanism without further difficulty. Occasionally, cases have been reported in which patients had developed auricular fibrillation without any other obvious findings of structural heart disease. Paroxysmal auricular fibrillation implies that the patient will develop the chronic form. The prognosis, therefore, depends upon the extent of the underlying cardiac pathology with the superimposed auricular fibrillation.

In considering the treatment of auricular fibrillation, I would like to point out that the discussion is directed primarily to the treatment of this arrhythmia rather than the associated congestive heart failure and the underlying cardiac pathology.

For the past three-quarters of a century, digitalis has been the accepted method of treatment of auricular fibrillation. It would be superfluous to review the value of this drug or its effect upon the cardiac mechanism. Digitalis therapy, however, is not a curative procedure in the treatment of auricular fibrillation. It modifies the abnormal cardiac physiology thus rendering it more efficient.

In 1914, Wenkebach discovered that quinine would cure auricular fibrillation. Quinidine, the chemical isomer of quinine, was found to have a similar effect in 1917, by von Frey. Following these reports numerous records appeared in the literature concerning the use of quinidine sulphate in auricular fibrillation. Cases were soon reported in which embolic phenomena had occurred and considerable fear developed concerning the use of quinidine. Dr. Paul White of Boston reviewed the frequency of embolic phenomena in patients who were converted by the use of quinidine and those who had never received quinidine. It was found that the incidence of emboli was practically the same in both series. The common practice in the past was to hospitalize patients who were to receive quinidine, fully compensate them with the use of digitalis and, after the test dose

of two grains, give them an increasing dosage, sometimes up to ninety grains per day.

I would like to relate to you my studies on the effect of quinidine sulphate in auricular fibrillation in an experience of slightly more than two hundred cases. No selection of patients has been made regarding the underlying pathology, age, sex, decompensation or previous digitalization. The drug has been prescribed for ambulatory patients as well as hospital patients, and private patients as well as those in dispensary or charity wards.

The method of dosage is quite simple. The patient is given quinidine sulphate in a tablet containing three grains. One tablet is taken every six hours during the twenty-four hour period. To follow accurately this regime the patient should awaken at night to take one dose. Forty per cent of these patients have been converted to a regular sinus mechanism. Heretofore it was the consensus of opinion that, if a patient did not convert to a regular mechanism after taking quinidine for a period of a few days, a further trial would result in failure. This has not been our experience. Some cases have taken the drug as long as several months before conversion occurred.

In cases of decompensation, digitalis was used in conjunction with quinidine. There has been considerable discussion as to the advisability of this procedure but practice has shown it to be desirable. Other necessities of cardiac treatment such as the use of opiates, diuretics, low ionic diets, and salyrgan were employed when necessary.

In the group of cases in which conversion to a normal mechanism has occurred, a maintenance dose of quinidine sulphate must be kept in force. Six to nine grains per day is usually sufficient. This dosage may be taken indefinitely without evidence of cinchonism.

In the cases in which auricular fibrillation persisted in spite of consistent efforts to convert it with quinidine, the patients were kept on small doses of digitalis of one-half to one grain per day and six to nine grains of quinidine sulphate per day to maintain their compensation. Several studies have been made in this group of patients of combining other drugs with the quinidine to effect a conversion but to date none have been found successful. In one group of patients intravenous injections of the drug were used, in doses varying from three to twelve grains, but these attempts were unsuccessful in effecting a conversion. This method

cannot be recommended.

The effect of quinidine sulphate upon the fibrillating auricles is one of sedation. It has a sedative influence upon the irritable foci and decreases their number. When electrocardiograms are taken from day to day upon a patient who has auricular fibrillation, it is usually found that the number of foci are diminished until only one remains and auricular flutter may be demonstrated. With continued use of the drug it would appear that the sino-auricular node re-assumes its normal role of pacemaker and normal sinus rhythm occurs as the last irritable focus in the auricles is abolished. In those cases in which conversion does not occur the auricular activity is either not appreciably affected or it is slowed to a rate near 200 per minute with one or more auricular foci predominating, and the sino-auricular node fails to resume its normal role of pacemaker.

In summary, it may be said that auricular fibrillation is a state of abnormal cardiac physiology which decreases cardiac efficiency. Quinidine sulphate administered in doses of three grains, four times in twenty-four hours will, in forty per cent of the cases, convert the auricular fibrillation to a normal sinus mechanism.

This method of continued low dosage is free of danger of quinidine intoxication and is applicable to all patients. Individuals with auricular fibrillation, who fail to convert to a regular sinus mechanism, are best treated with a combination of digitalis and quinidine. The effect of quinidine is a sedative one.

SKULL FRACTURES AND HEAD INJURIES

L. S. NELSON, M.D.

Salina, Kansas

As an introductory statement, a resume of statistics furnished by the Secretary of the State Board of Health shows that out of 1755 accidental deaths in the state of Kansas in the year 1934, skull fracture was given in 386 as the actual cause of death. And of the 482 deaths last year from automobile accidents, 235, or nearly fifty per cent, was charged to skull fractures. In addition to the 386 skull fracture deaths, there occurred forty-three

deaths classed as "Head Injuries" or "Concussion of the Brain." This is a total of 429, or almost twenty-five per cent of accidental deaths occurred as a result of head injury. Using this as a basis for national figures, there occurred approximately 9,000 head injury deaths as a result of automobile accidents alone.

Those of us who are interested in any phase of medical history will find in Vol. 3, Number 3 of the *Annals of Medical History*, Dr. C. A. Elsberg's account of the Edwin Smith Surgical Papyrus, a most delightful and stimulating story. Undoubtedly written during the time of the Old Kingdom, 3,000 to 2,500 B.C., antedating by ten centuries the papyrus of Ebers, perhaps written by that great Architect, Philosopher, Physician, Imhotep himself. We are herein given a glimpse of the diagnosis and treatment of skull fractures as they occurred in a civilization which existed five thousand years ago.

In this oldest known surgical record, as with all later records, the care of wounds is built more on rational lines, using less of magic and incantations, than prevailed with reference to the care of internal illness. For example, the approximation of the lips of a wound with tape is clearly explained, and in case ten, wound edges were brought together with sutures. It contains short clinical descriptions of thirteen cases of skull fracture, classified as "split" or fissured, "smashed," comminuted or compound comminuted and depressed. Also, judged by the symptomatology, some were fractures at the base. Case five is quoted from the translation made by Professor Breasted.

TITLE

"Instructions Concerning a Gaping Wound in His Head, Smashing His Skull."

EXAMINATION

"If thou examinist a man having a gaping wound in his head penetrating to the bone and smashing his skull; Thou shouldest palpate his wound. Shouldest thou find that smash which is in his skull deep and sunken under thy fingers, while the swelling which is over it protrudes, he discharges blood from both his nostrils and both his ears, he suffers stiffness in his neck so that he is unable to look at his two shoulders and his breast."

DIAGNOSIS

"Thou shouldest say regarding him; One having a gaping wound in his head penetrating to the bone and smashing his skull, while he

suffered with stiffness of the neck. An ailment not to be treated."

TREATMENT

"Thou shalt not bind (him) but moor (him)."

There is much more of special interest to the brain surgeon. In fact, therein is the first known reference to the brain and also its covering. The sanity of some of the elements is almost astounding. Under examination the surgeon explained that one should begin at the head and proceed down over the entire body. When he wrote "An ailment not to be treated," he meant that it was a fatal injury and treatment would be to no avail. In some instances wound edges were drawn together, in some they were not, intimating that drainage was necessary. There is only one case which spoils the record as being sane and learned as viewed these five thousand years later. That is of a skull fracture to which a poultice was applied for drying, and the poultice was made from the eye of an ostrich, and then another made from figs, grease, and honey was later applied. It is curious that this is distinctly unlike the treatment for every other case.

It scarcely behooves us to criticise, however, in this supposed enlightened era with its faith healing and its various kinds of fake diagnostic and healing electrical machines. We wonder if five thousand years hence, when some learned student pieces together our hieratic and demotic hieroglyphics, or whatever our writing will then be called, they will not find as much to laugh over as we find in the writing of that ancient, and yet honored Surgeon.

As can be seen, the history of skull fractures is as old as the history of our art, and yet we find much differences of opinion among learned men today concerning the handling of these very troublesome cases. It is not our purpose to try to settle permanently nor definitely these differences, but to recount three case histories in which the errors in management will probably speak for themselves, and then to suggest what seems to be a fairly rational method of treatment.

CASE I

W. M., male, aged fifty-two, struck by automobile, September 29, 1934. Thrown to pavement. Pulse, 34; Respiration, 20, irregular; Temperature, 96.8; B. P. 100; 60.

Examination: Bleeding slightly from nose and mouth, moaning and restless, made

an effort to answer questions, but could not. Gave evidence of having pain in his head. He emesed twice during the examination, fluid, undigested food particles, and macroscopic blood, slight bleeding continued from left nares, left auditory meatus and mouth. General aphasia was almost absolute, there was no paralysis nor notable change in reflexes. Pupils were immediately dilated with three per cent ephedrine solution to allow careful examination of eye grounds. There was no papilloedema. Head was elevated slightly, and since he was already on a hospital cot, he was taken to the x-ray room and radiogram made. Echymosis appeared below both eyes.

X-ray Report: "Fracture post occipital region extending from central point to region of left mastoid. Slight external abrasion."

Morphia, one-fourth grain and strychnia, one-sixtieth were given and the vomiting ceased. Spinal puncture was not done until the fourth day because it was thought that the fluid was escaping either into the upper respiratory canal or the left auditory canal because of the character of the discharges, and lack of clinical evidence of high intracranial pressure. When it was done on the fourth day, fifty c.c. of the bloody fluid were withdrawn. The spinal canal was drained with no evidence of herniation of the medulla into the foramen magnum. In other cases complete drainage has not been done, although I know of no accident occurring, it would seem possible. No pressure measurement was made. 1500 units of anti-tetanic serum had been given the day of the accident as well as fifty c.c. twenty-five per cent glucose intravenously. On the fifth post accident day, fifteen c.c. bloody spinal fluid were withdrawn, and on the ninth day, ten c.c. in which there was little blood.

The fluid intake was limited to thirty ounces daily, and the glucose venoclysis repeated daily until clinical evidence of a dry patient was positive.

The patient never regained consciousness, but seemed many times on the verge of so doing. His attitude ranged from being quiet to noisy and abusive, with efforts to get away. He was given adequate narcotics to maintain quiet.

After eight weeks of this expectant treatment, his temperature began to rise and his condition to become worse, and a notation made that it was probably due to absorption of clot, necrotic cerebral tissue, or infection,

and perhaps all of these. December 14, 1934, the patient died.

Autopsy Findings: Brain necrosis beneath the fracture line. Extensive meningeal adhesions with moderate effusion of fluid over both hemispheres of the cerebrum. Cause of death, meningitis. Although we could not demonstrate at autopsy any opening into the upper respiratory or auditory canals, the conditions under which the autopsy was performed were not ideal and it is our opinion that the infective organism gained entrance into the cranial cavity through that route.

CASE II

C. D. While working over a large-sized detachable rim bus tire holding eighty pounds air pressure, the rim suddenly released and struck him on the forehead with considerable force. He was helped to his feet and walked to a car and brought to the hospital where he walked in and stood in the elevator, walked to the operating room, and lay down on the table. I asked his name, and he gave it correctly.

Examination and inquiry revealed the following: Male university student, aged twenty, six feet, three inches tall, weighing 225 pounds. There was a slanting compound comminuted skull fracture across the forehead, twelve to fifteen cm. in length, and two to four cm. wide, with many bone fragments driven into the substance of both frontal lobes of the brain.

Operation: The head was shaved, the wound cleansed with soap and water, and Dakins solution. Twenty-one pieces of bone varying in size from that of a half dollar to that of a dime were carefully extracted from the brain substance. There were two large plates, one on either side fractured to the upper margins of the orbits, with upper edges driven inward. These were not removed, but the upper borders were elevated to one-eighth inch outside of their normal position. The greatest hemorrhage occurred when a debridement was made of several pieces near the middle commissure, the anterior cerebral having been severed and retracted. This was carefully clamped and ligated. The wound was bathed frequently with normal saline. A small piece of rubber dam was laid along the wound and the skin closed over it, allowing protrusion at either end. There was ample drainage of bloody spinal fluid and evidence of intracranial pressure for thirty-six hours. These subsided although drainage continued, and on the thir-

teenth day his temperature rose and pressure symptoms reappeared, and meningitis was evident. Highest temperature was 104.8 degrees. He was treated expectantly and symptomatically and on the sixteenth day his temperature had receded and he felt better. All of the time the head was elevated about forty-five degrees. At this time there was a cerebral herniation through half of the incision. This receded only partially when he went through another attack of meningitis, and then still another, following which there was complete herniation. Finally, in spite of all of this, the patient recovered, and by the removal of many sequestra and part of both frontal lobes, the wound healed without closure.

Operation: August 31, 1933. Under general anaesthesia the wound was reopened, the old scar removed, adhesions loosened, and bony edges freed. A pattern of the bony defect was then made of rubber dam. Where the original wound entered the hair line an incision was extended up over the scalp down to the periosteum. The pattern was laid there, and the outer table elevated the exact shape and size of the pattern. After removal, this autogenous graft was smoothed out in normal saline, and then fixed into the original defect with periosteal sutures, and the skin closed tightly over the entire area. His recovery from this procedure was uneventful except for a non-bacterial drainage because of osteomyelitis, and the fact that his appearance was not so good as we had expected because of the width and depression under the scar.

November 20, 1934, under general anaesthesia, the scar was narrowed over a transplant of soft tissue which healed with first intention, and now his appearance is greatly improved. In his treatment there has entered some psychoanalysis and guidance because of the loss of correlating areas, his emotional trends have been less controlled. The ultimate result, while encouraging, is not yet assured.

CASE III

C. W., male, forty years of age, died of unknown cause and the local coroner asked for a post mortem to discover the cause of the death. There was absolutely no evidence of external violence on the body anywhere except a small ecchymosed area on the left malar region which was about the size of a quarter. It was decided to first open the skull because the meager history was to the effect that there had been a

drinking spree, and that this man was of the type which become mean when intoxicated. As the knife came down over the right ear, just beneath the corneal layer of the skin which was perfectly normal in appearance, evidence of violence appeared in extravasated blood. Briefly, there was a skull fracture of small extent on the opposite side, which is often the case, but more important, there was extensive subdural hemorrhage. No doubt this man had progressive unconsciousness, probably died with dilated pupil on the side of the greatest hemorrhage, and with more or less paralysis of the opposite side of the body, death ensuing because of cardiac or respiratory embarrassment.

TREATMENT

There can rarely be absolute rules concerning the treatment of any serious human ailment, and so it is with fractures of the skull and head injuries. The safest thing for the patient which have some scientific bases, in so far as we know them, are the things to do. While the study of the particular injury is being made, the first elements in therapy can be instituted.

1. (a) Treatment of shock by the application of external heat to the body. (b) The injection of fifty to one hundred cubic centimeters of twenty-five to fifty per cent glucose solution, intravenously. This serves as a stimulant, but most particularly begins the process of dehydration for the reduction of intracranial pressure. (c) Elevation of the head twenty-five to forty-five degrees. (d) Administration of 1500 units antitetanic serum.

2. In the event of severe hemorrhage, or when the fracture is badly comminuted with fragments driven into the brain, and only in these cases should any operation be immediately performed. Even here, if surgery can consistently be postponed until the symptoms of shock have subsided, the patient's chance is enhanced. If, however, delay seems inconsistent to the patient's life, the three elements paramount to such a procedure are: (a) Sterilization of wound, (b) careful ligation of bleeding points, (c) careful debridement. It is probably better to close the wound tightly and depend on other means for the control of intracranial pressure.

3. Frequent, that is depending on the severity of the case, blood pressure, pulse, temperature, respiratory rate, and eye ground read-

ings will give the most information concerning the patient's condition. (a) Systolic blood pressure varying between 85 and 160 is not considered dangerous, as it only indicates the extent of peripheral resistance. Diastolic pressure below sixty m.m. mercury means loss of blood oxygen which may be serious, particularly if the systolic pressure does not compensate, there will be anoxemia, alkalosis, and edema.

4. Spinal Puncture. This is always (a) diagnostic, and it may be (b) therapeutic. We have wondered many times why this, in some cases, was followed by definite benefit, and belief of untowered symptoms, and sometimes is of little value. The best explanation is probably that when effusion is extracerebral, thereby pressing inward, the pressure relief is beneficial. It is interesting to note that in these cases the withdrawal of a relatively large amount of fluid can be accomplished with a slower drop of manometric pressure. On the other hand, when there is a true edema of the brain, which naturally produces more of an excentric pressure, little good can be accomplished, and we find a rather rapid drop in manometric pressure with the withdrawal of relatively small amounts of fluid. Reducing manometric pressure fifty per cent if that does not bring it below normal is a good uniform rule.

5. Dehydration therapy, (a) limited fluid intake and (b) frequent injections of intravenous glucose. The amount and concentration we believe, should be gauged according to the need. (c) Some use epsom salts to apparent good advantage.

6. Gentle handling of these patients is of real importance, and since x-ray examinations do not alter the early treatment, they are postponed until the period of shock is over, and there is less danger attached to moving the patient.

7. In the presence of continued papilloedema not responding to therapy suggested, subtemporal decompression is mandatory for the patient's best interest. In all other cases, surgery should be delayed and planned according to the neurological findings, cranial defects, and in the injury cases later described.

8. If the fracture approaches or enters either frontal sinus, under local anaesthesia an opening at the brow with insertion of a drainage tube should be done. Otherwise, when the pa-

tient blows his nose, bacteria will be forced with the air into the cranial cavity with almost certain meningitis as a sequel.

CONCLUSION

One should not leave this subject without some remarks about the type of head injuries which produce what some authorities have rather aptly called "Chronic Subdural Hemorrhage." These are the cases which present a bizarre group of symptoms following a more or less trivial head injury. The time of the onset of symptoms may be that of the injury, or three months later, and they are somewhat as follows:

- a. Post traumatic psychoses.
- b. Soon followed by signs of intracranial irritation or pressure.
- c. Papilloedema.
- d. Increased spinal fluid pressure.
- e. There is no skull fracture and therefore x-ray evidence is nil.
- f. There may be motor paralysis of varying degrees.
- g. Whatever symptoms appear, they are usually progressively worse over a period of hours or days.

Subdural hemorrhage is the cause of the symptoms, and we see here the results often of an injury which seemed very trivial at the time it was received. It is well to remember a few facts which are the result of a survey of records of these injuries. These are as follows: Fifty per cent of these subdural hemorrhages occur bilaterally and eighty-three per cent of these patients will get well if they are operated. The non-operative treatment has proved unsuccessful, and a suggested operative method is the use of four trephine openings in the top of the head, one in each quadrant. Fronto-parietal bilateral, and occipito parietal bilateral, and carrying the openings further as indicated. The washing of old blood and clots out with sterile normal saline and then closing the wound tightly. The reasons for tightly closing the wound are that if infection occurs to increase the intracranial pressure to a point where it cannot be controlled by general measures it will be so great that it will herniate the brain so definitely that the aperture in the skull will be corked, and drainage impossible anyway. Also, the dangers of meningitis are certainly much less when the wound is tightly closed, and intracranial pressure can be almost, if not

as well handled by the general measures suggested.

Trephining is the oldest known surgical procedure, and it is evident that in the light of present knowledge it has at last found a scientific place where it is absolutely indicated, and where it can actually save the life of a patient. Who knows but that some of the Neolithic skulls described by Paul Broca in which there are trephine openings may not have suffered a blow on the head, and that in those few which profited by the operation, evidence accrued which furnished empirical knowledge for the continuance of the practice?

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Edgar Allen, New Haven, Conn. (*J.A.M.A.*, April 27, 1935), stresses the following points in the physiology of estrogenic substances: First, as a major objective, the fundamental endocrine mechanism of the estrous and menstrual cycles has been demonstrated. Active hormones have been isolated and their relation to one another partially worked out. Second, incidental to the first point, the reaction of the rodent's vagina has provided a practical test for the biologic standardization of therapeutic products, and these have now replaced the inert gland extracts previously in wide clinical use. Third, the extension of the test to carcinogenic substances and to other substances of similar chemical structure from a wide range of sources is extremely important. In description of some of the carcinogenic and estrogenic substances, the time interval required may be considerably greater than that required for the growth phase of the estrous reaction to theelin. The reasons for variations in the time of reaction are not clear. It is not yet known whether some of the related substances included under the term "estrogenic" will produce more than the vaginal growth reaction. Few of them have been tested as to value in replacing other phenomena of estrus or menstrual phenomena in primates.

PRESIDENT'S PAGE

BUSINESS METHODS

To the Members of the Kansas Medical Society:

Doctors are generally regarded as poor business men, and there is, no doubt, some basis for this assumption as his training has been along professional lines, and he has had little opportunity to acquire much, if any, business experience.

Every man starting out to practice medicine should have some business training, and a practical way to acquire it would be to have a chair of business administration in every medical college. To the older practitioner who is lax in his business methods, I would suggest that he associate himself with some successful man and learn something of the debits and credits on the pages of a ledger, and then see to it that the debit side does not greatly outbalance the credit side.

Physicians in every community have their own problems as to fee schedules and collections attendant on the financial condition of the population. The physician rarely discriminates as to whom he will give his service, attending the rich or the poor, as the case may be. The rich can pay the price the doctor asks, but the poor must be shown a different consideration.

It would be of great benefit to the profession generally if the county societies would create a fee schedule that would meet local conditions; cut out fancy prices for ordinary work, and then let every member adhere to the schedule as far as is consistent with the financial circumstances of the patient. Of course, it would be impossible to make a uniform charge that would apply in every case, and the schedule would, necessarily, be an elastic one.

Fee schedules recently submitted by medical societies were found to have been adopted from ten to forty years ago. The longer of these periods cover two or more industrial cycles, during which prices increased 50 per cent or more while medical fees remained almost stationary, and it is estimated that physicians every year lose from 20 per cent to 60 per cent in uncollected bills.

The collection of accounts has always been

more or less of a problem to the medical profession. The American Medical Association has made an effort to solve this particular problem of medical economics, and has sent out questionnaires to the medical societies, and the answers would indicate that the most successful plans have been inaugurated and controlled by professional organizations, or by groups of medical men, and some good results have been obtained through local commercial agencies. National organizations were condemned in most of the answers to the questionnaires.

There is no single method by which medical fees can be collected, and every practicing physician must decide for himself just what collection method is most effective for his use in his community. I believe that some business system adopted and adhered to, though it be not the best in the world, will bring its measure of success. If the physician will keep a pocket or desk memorandum, and make a note of a charge until he can make a permanent record, he will find he has eliminated a great deal of mental strain and financial loss incident to a possible omission of such.

Statements should be sent out regularly, the first of every month. Be vigilant in this matter and follow up shortly with another statement. Sometimes, a few words appended to the statement will bring about the desired result. As a matter of fact, the presentation of a statement should be sufficient, but there are some people who seem capable of withstanding and ignoring these gentle reminders for an indefinite time with the most provoking equanimity and indifference. For cases of this kind, I would resort to the method used by all business houses and send a collector after him on the theory that half a loaf is better than no loaf.

If all doctors would go about their business in a business like way, the laity would soon come to expect to pay the doctor equally as promptly as it pays the rent, gas or telephone bill.

The support of our families, the maintenance and operation of our business, and the acquiring of a competency in our old age, all depend on the collection of our fees. The medical profession has suffered financial loss year after year, and it is time the public should recognize the fact that the profession, in order to be efficient, is dependent upon an adequate financial support.

J. F. HASSIG, M.D.

EDITORIAL

FINIS—BRINKLEY

It is a source of satisfaction to the physicians of Kansas that the Board of Medical Registration and Examination was upheld on all points in its revocation of J. R. Brinkley's license by a recent decision of the federal district court. The Kansas board and Dr. Barney are entitled to the lasting gratitude of the citizens of our state for their courageous action five years ago which resulted in the removal of the Milford menace to one or another of the banks of the Rio Grande. Judge Johnson said:

"Brinkley made the practice of a medicine a business, adopting the usual present day methods of propaganda by use of the mail and radio for its development and extension.

"These methods are not only notoriously in conflict with the ethics of the profession, but in my opinion, in conflict with the best interests of the public, and irrespective of the value of the operations performed by him at the hospital for the amelioration of the prostate gland, or the benefits to individuals using prescriptions given them through radio broadcasts, the possibilities of injury to the general public resulting from such methods are so apparent that its mere statement is sufficient."

This decision will strengthen the authority of the Board to protect the public from quacks and charlatans in the future besides giving judicial sanction to such of our medical ethics as are opposed to advertising and promiscuous prescribing.

REJUVENATION

In 1889, Brown-Séquard drew attention to the remarkable rejuvenating effect produced upon himself by the subcutaneous administration of testicular extract. Since that time, medical science has been concerned in the search for values in glandular therapy; and the study of endocrinology has caught the imagination of many investigators and clinicians.

Physicians and the laity alike have been apt to look for magic in this field, as they have in many others. Here, as through the ages past, man has been seeking after a specific. He has been searching for the cypress tree of Lyden which, to old men sitting under its leaves, "lent once more to wintry age the greenness of its spring." Ponce de Leon searching for the fountain of youth is at once the symbol of mankind growing old.

In 1920, Steinach of Vienna revived the question of the efficacy of ligation of the vas deferens; and the enthusiastic reports of his work raised hopes which, like the earlier work of Brown-Séquard, have been dissipated. Steinach claimed that decrepit old men became sleek looking, vigorous, and pugnacious youngsters through his work.

Professor Carl R. Moore of the department of zoology at the University of Chicago has, for the past fifteen years, studied the testis in his laboratory. He reports some interesting facts in a paper read before the New England branch of the American Urological Association. Professor Moore has found that closure of the outlet passage from the testis in experimental animals does not lead to loss of all germinal epithelium; and he has not found hypertrophy of the interstitial cells following closure of the vas deferens, as was contended by Steinach. He holds that should interstitial cell hypertrophy take place, as postulated by Steinach, it cannot be taken for granted that greater hormone secretion will follow. He holds further that it is by no means established that excessive amounts of hormone are beneficial, or that testis hormone in any manner leads to rejuvenation.

It is well established that resection of the vas deferens is an efficacious means of sterilization; but, according to Professor Moore, there is no acceptable evidence that it has any value whatever as a means of effecting rejuvenation.

The search for Lyden's cypress tree, the search for the fountain of youth, the search for a specific goes on over a winding, tortuous route. The wisest men of all observe the search,

and, seeing its hopes and disappointments, echo Robert T. Morris who, in his autobiography, declares that his feelings about the making of old folks young is expressed by Cephalos in Plato's Republic: "Age," says Cephalos, "is 'time to have peace'."

LABORATORY

Edited by J. L. Lattimore, M.D., Topeka, Kansas

IRON STUDIES ON THE BLOOD

MARTIN DUPRAY, M.S.*

Hutchinson, Kansas

All but a small fraction of the iron in the blood is present in chemical combination in hemoglobin, which in turn is bound in the red corpuscles. The hemoglobin, as the agent which carries oxygen from the lungs to the tissues, and in part, carbon dioxide from the tissues to the lungs, is essential to metabolism and life, and has been the subject of much study.

It is generally stated that hemoglobin from man contains 0.335 per cent of iron. Hemoglobins from different species appear to differ somewhat in composition. It is considered that the iron in hemoglobin acts as the oxygen carrier.

Studies of the oxygen combining power of hemoglobin indicate that when fully oxidized to oxyhemoglobin, one atom of iron takes on two atoms (one molecule) of oxygen. Hufner's figure, that 1.34 cc. of oxygen (at 0°C, 760 mm. of mercury pressure) combines with 1 gram of hemoglobin, is generally used, which is equivalent to 0.4 cc. of oxygen per milligram of iron. Blood containing 15.6 grams of hemoglobin per 100 cc. can combine with about 20.9 cc. oxygen per 100 cc.

The dissociation of hemoglobin and oxygen, in the presence of the blood plasma, is such that at the oxygen tension of the alveolar air in the lungs oxygen is readily taken up, and at the oxygen tension of the tissues it is given off.

It has been shown that the carbon monoxide combining power of hemoglobin is the same as the oxygen combining power. The dissocia-

tion of carbon monoxide hemoglobin, however, is so slight that the compound, once formed, breaks up very slowly. In carbon monoxide poisoning the hemoglobin is thus rendered useless for carrying oxygen.

There is a trace of iron in the blood other than that in the hemoglobin. The feeding of iron in a form that can be absorbed increases this non-hemoglobin iron, but may or may not increase the hemoglobin. Iron cannot be built into hemoglobin unless a certain amount of copper is also present. This has been shown by the work of Hart, Steenback, Waddell and Elvehjem,¹ and confirmed by others. The copper does not influence the absorption and assimilation of iron, but is necessary to the synthesis of hemoglobin,² probably from some catalytic action, as it is not used in the compound. Many other elements have been studied in this connection but none have been found to have the same action as copper.

Several studies have indicated that inorganic salts of iron are in general more readily assimilated than iron in organic combination. Elvehjem, Hart and Sherman,³ using Hill's⁴ a.a'-dipyridyl reagent, have shown that iron compounds sufficiently dissociated to react with the dipyridyl reagent were readily utilized in nutritional anemias, whereas iron compounds not sufficiently ironizable to react with this reagent were not utilized in such anemias. They noted that hematin iron was not utilized.

Because of the close parallelism between their feeding experiments, and reaction with the dipyridyl reagent, these authors believe this reagent should prove valuable in determining the availability of iron in foods.

From their studies they recommended ferric pyrophosphate as a source of iron in anemias, as being utilizable, but at the same time in sufficiently firm combination as to be non-astringent.

In pernicious anemia, the primary deficiency is in ability to produce red corpuscles. The power to build hemoglobin has not been lost, which fact is attested by the increased color index, as well as by experimental data. There is a decrease in the total hemoglobin, but it is because of the decrease in erythrocytes.

The studies of Minot and Murphy⁵ have shown that "liver contains a substance that is specific in the transformation of megaloblastic bone marrow to normoblastic." Liver and liver extracts have proven of clinical value in stimulating the production of new red corpuscles.

*The Dupray Laboratory.

in pernicious anemia. They should be accompanied by a source of iron and copper for replenishing the shortage in hemoglobin.

Because of its clinical importance, there have been scores of methods developed for determining the amount of hemoglobin in the blood. The routine office and clinical methods are colorimetric. Some utilize the color of hemoglobin itself, as in the Tallquist scale and the Dare instrument. The majority use the color of acid hematin, as in the Sahli, Newcomer, Hellige, Haden-Hauser and others. One method utilizes the blue color produced by hemoglobin, benzidine and hydrogen peroxide. The colors of carbon monoxide hemoglobin and of cyan-hemoglobin have also been employed. All such methods require the establishment of a standard by some other means. The oxygen capacity method, and blood iron analysis are the methods of choice for accurate work.

There have been many researches for the "normal" hemoglobin content of the blood. Haden's⁶ figure of 15.6 grams of hemoglobin per 100 cc. of blood seems to be near the average of many published studies. The results of several researches indicate that the "normal" for females may need to be accepted as somewhat lower than that for males. Laboratory results should be reported in grams of hemoglobin per 100 cc. of blood rather than per cent of normal, since there is as yet no widely accepted normal figure. Several clinical colorimeters now being made, read in grams per 100 cc.

The oxygen combining power of the blood, as determined by the Van Slyke micro gas analysis outfit, if properly carried out, is a very accurate method of determining hemoglobin. This method has been the basis of most of the recent studies of the average, or "normal" hemoglobin content of the blood. Some authors have checked the results with some iron analysis method. The writer believes that the iron methods deserve more attention.

There have been dozens of methods and modifications of methods published for blood iron analysis. Most of them have fallen by the wayside because of errors or difficulties of the method. A few satisfactory ones are, however, available. The methods fall into several groups as to the starting point, or method of getting the iron into inorganic solution, and also as to method of determining the iron afterward.

Some methods use dry ashing. This requires

that the temperature of incineration be kept below about 550°C. to avoid loss. At this temperature ashing is slow and requires some hours; also a temperature controlled muffle. Doubtless this is the best method but too tedious for general use.

Most methods use some form of wet ashing, by boiling with sulfuric acid and other reagents. Wong's⁷ first (1923) method used sulfuric acid and potassium chlorate. The writer,⁸ and Kennedy,⁹ simultaneously published the use of sulfuric and perchloric acids in 1927. Others have used sulfuric and nitric acids, and sulfuric acid and superoxol for the destruction of organic matter. The fastest and least troublesome method is by sulfuric and perchloric acids.^{8, 9}

Wong's¹⁰ second (1928) method for iron determination avoids ashing, by extracting the iron from its organic combination by the use of sulfuric acid, followed by removal of proteins by tungstic acid precipitation and filtration. Several writers have reported the results low by this method.

Having gotten the blood iron in inorganic solution, there are a variety of procedures for determining the amount.

The volumetric method, by titration with titanium is probably the most accurate. Klumpp¹¹ gives a modification of this procedure that avoids several of the known errors of previous methods. It is quite accurate but somewhat tedious.

Most of the methods in use are colorimetric. Of these, the majority used make use of the red color produced by ferric iron with thiocyanate. The methods of Wong^{7, 10}, Dupray,⁸ Kennedy⁹ and several others use this colorimetric method. Ferric thiocyanate is unstable in aqueous solution and gives much trouble from fading. The method of Kennedy⁹ avoids most of this difficulty by using amyl alcohol to remove the ferric thiocyanate from the aqueous solution as it is formed. This colorimetric procedure can be highly recommended.

Reis and Chakmakjian¹² utilize the blue color of prussian blue, and avoid precipitation of the prussian blue, which first forms as a dispersed colloid, by keeping it dispersed with gum ghatti. More recently, Burmester¹³ has used the intense reddish purple color produced with iron by thioglycolic acid.

Standard iron solutions for preparing colorimetric standards have been made variously

from ferrous ammonium sulfate, ferric sulfate and from analytical grade of iron wire. The use of the iron wire is to be preferred.

Standard iron solutions, whether from iron salts or from wire, if dissolved in sulfuric acid, hydrochloric acid or cold dilute nitric acid, must be made ferric by addition of peroxide or permanganate each time used. The writer⁸ has pointed out that if iron wire be dissolved in boiling dilute nitric acid, the resulting solution is ferric and remains so. No subsequent additions of oxidizing agents are necessary.

For a blood iron method the writer recommends the digestion procedure and standard iron solutions of Dupray⁸ combined with the colorimetric procedure of Kennedy.⁹

Analytical methods for blood iron require careful attention to details and to measurements. Because of the large conversion factor of iron to hemoglobin, small errors in the iron determination become large errors in hemoglobin.

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OFFICIAL PROCEEDINGS

77th Annual Meeting

(Continued from June Issue)

Dr. C. C. Nesselrode asked for clarification of action taken on the report of the Constitution and By-Laws Committee since the report was apparently read only by title and did not therefore purport to submit a new constitution and by-laws.

Dr. E. C. Duncan replied that this was the intention of the committee, and that they desired only to have it adopted at the 1936 meeting after proper publication in the Journal.

Dr. Henry Tihen stated that the present constitution provided for approval of amendments by the Council and that he believed Dr. O. P. Davis's motion would permit final action to be taken in 1936.

Dr. C. C. Nesselrode assented to this theory.

Dr. Fred McEwen asked the chair for instruction as to whether the Council was empowered to make a preliminary approval of a new Constitution and By-Laws. Dr. J. F. Hassig ruled that the Council was so empowered.

Dr. A. W. Fegtly rose to a point of order that further discussion was unnecessary inasmuch as the committee intended only to present a review of its work, and as final adoption could proceed under Dr. O. P. Davis's motion.

Dr. J. D. Colt coincided with this view and asked the chair to proceed with the next order of business.

Dr. L. G. Allen, chairman of the Medical School Committee, presented the following report:

To the House of Delegates, Kansas Medical Society:

Your committee on the medical school wishes to report as follows:

A meeting of the committee at the Bell Memorial Hospital on April 23, 1935.

The standing of the Medical School remains in Class A. In addition the school has been granted a chapter in Alpha Omega Alpha, the honorary scholastic medical fraternity. There are in the United States eighty Class "A" medical schools and approximately forty of them have Alpha Omega Alpha chapters.

The present bed capacity of the Bell Memorial Hospital is now 250 including twenty bassinets. There are, on the average, about 200 patients in the hospital, approximately fifty per cent of which are county patients. There are fifteen private rooms, sixteen semi-private rooms, and the balance ward beds.

We are informed that only patients in the private and semi-private beds pay professional fees which gives approximately 199 beds for clinical and teaching purposes.

These patients, namely those occupying teaching beds, reach the hospital in one of three ways. A large portion are sent to the hospital from the various counties of the state. The county pays \$12.00 a week plus charges for the operating room, laboratory and x-ray charges. A second group of patients are those recommended for hospitalization by the out patient department or clinic. These patients pay \$15.00 a week plus minimum

charges for special hospital work. The third group of patients are recommended to the hospital for clinical care. They pay the minimum hospital charges but no professional fees and are recommended for admission by physicians in practice throughout the state. This latter class of patients are required to bring to the hospital a certificate of the attending physician stating that the patient is able to pay the hospital expenses but not professional fees. A sample of this blank is inclosed with this report.

A fourth method of entering the hospital is the occasional emergency as result of an accident or some acute condition of an emergency character. Ten per cent of the patients are entirely free, either admitted directly from the dispensary as a case valuable for teaching purposes or a county patient held over for teaching purposes in which case the extra time is charged to the hospital rather than the county.

The out patient department sees approximately five thousand patients visits a month. Admission to the out patient department is by a slip signed by a reputable physician, a member of one of the recognized charitable organizations or a clergyman. Patients on relief representing from twenty to thirty-five per cent of the total number of visits are seen with no admission charge or special charge for laboratory procedures.

The medical school has suggested the establishment of a short post graduate course open to the physicians of the state who have been in practice ten years or more. This course would be in the nature of a review of medical progress for the past ten years, and would offer to the physician member a short intensive course.

The details of this course have not been worked out and the decision as to its being offered has been left to the question of the demand on the part of the physicians of the state.

The committee recommends that this plan be discussed and an answer addressed to the faculty of the Medical School as to the desirability of such a course.

Enrollment to the Medical School now consists of 215 medical students, 90 nurses. This number represents the capacity in the present facilities as explained to the committee. The officials of the medical school state that an increase in the number of students graduated

is impossible with the present facilities and the present limitation of seventy students per year taxes the facilities and an increase in this number seems impossible. Ten per cent of the students admitted are from Missouri, in return for the clinical facilities of the Kansas City General Hospital, The Tuberculosis Sanitarium at Leeds and the Children's Mercy Hospital. This agreement is unofficial, but in the minds of the committee appears just. Ninety per cent of the medical students come from Kansas with the exception of an occasional student from some distant state, whose admission seems justified by the administrative committee.

The committee recognizes the demand in numerous places for an increase in the number of the students admitted to the medical school, and also are mindful of the numerous reasons offered for a greater limitation in the number of physicians graduated. The committee is of the opinion that the demands for increasing the number of graduates are about in balance with those calling for a decrease in the number of students and is further convinced that any increase would call for additional appropriations to the present facilities and therefore recommend no change in the present policy.

Regarding the handling of county patients by the Bell Memorial Hospital, it is the policy of the institution to report to the county health officer of the county from which the patient comes each two weeks.

The problem of reporting the progress of these patients to the physicians who cared for the patient previous to his admission from the county is difficult, inasmuch as very frequently the name of the physician is not given or is voluntarily withheld.

The occasional abuse of the facilities by patients entered as county patients, is recognized by the faculty and the committee recommends that the individual physician of the state who knows of such improper admission of a patient to the hospital as a county patient, notify the authorities of the Medical School who promise a correction of the abuse.

Regarding the abuses of the out patient department the committee feels that such abuses have been largely corrected.

The second admission of the patient to the dispensary requiring the signed statement of a physician, clergyman or relief worker reduces such abuses to a minimum.

This authority for admission is recognized for a period of six months at which time the patient is required to present a new slip.

That twenty-five to thirty-five per cent of the dispensary admissions going to patients who are now on relief constitutes a contribution on the part of the State Medical School to the care of the indigent sick which is commendable.

The faculty of the Medical School consists of 170 members, twenty-five at Lawrence, all residents of the state of Kansas. One hundred forty-five members at Kansas City, Kansas, forty-seven of which are residents of the state of Kansas, and ninety-eight residents of the state of Missouri.

In reference to the above facts the committee recommends that the State Society inform the officials of the faculty of the Medical School that as a policy, the qualifications being equal, a potential faculty member living in Kansas should be given a preference over a non resident.

The committee has been in contact with the Governors office asking the appointment of a member of the State Society to the Board of Regents which suggestion has been kindly received.

The committee recommends that the House of Delegates and the State Society officially request the Governor to include in his appointment to the Board of Regents a member of the Kansas Medical Society.

Dr. Fred McEwen moved that the report be accepted, and that it be incorporated into the official minutes. Seconded and carried.

The report of the Hospital Survey Committee was handed to the Secretary for incorporation into the official minutes and publication in the Journal:

To the House of Delegates, Kansas Medical Society:

After reviewing the hospital activities of our state for the year 1934 your committee submits the following report:

In the year 1934 Kansas had 127 registered hospitals and there were 27 hospitals which were refused registration because of failure to meet the minimum requirements of the A.M.A. In reviewing the number of such substandard hospitals reported in other states your committee regrets to say that there are more such institutions operating in Kansas in proportion to the total number of hospitals than in any other state in the union. This failure to qualify for registration is for various causes

including alleged unethical or questionable practices, admission to their staffs of members who are seriously unqualified either morally or professionally, flagrant methods of advertising, and other valid reasons.

We feel that this record is something of a disgrace and it is to be hoped that these institutions may be aroused to correct their objectionable practices in order that they may be recognized.

In watching the matter of hospital patronage the trend toward governmental encroachment in this field of medical activity continues to increase as it has done for the past decade.

In 1934 in Kansas there was one more governmental hospital and one less non-governmental hospital than in 1933. Also the census of the governmental hospitals increased by 451 patients a day whereas the non-governmental institutions fell off by an average of 74 patients daily.

In considering the significance of these figures it should be remembered that the average stay of the patient in the governmental institution is about eight times as long as in the non-governmental hospital.

The hospitals of Kansas continue to have many idle beds and this percentage the past year is more than for any previous year. A fraction less than fifty per cent of the beds of the general hospitals of the state were occupied. This means that the non-governmental hospitals are having serious financial difficulties. There is a tremendous loss in operating with one-half the available beds empty. The various governmental relief measures are not helping the hospital but rather encouraging more people to enter tax supported institutions. There have appeared in some localities attempts to use federal funds for building new hospitals. Certainly Kansas needs no more hospital beds. Because some counties do not have hospitals does not mean there is an actual need. As the Bulletin of the A.M.A. points out, county lines are not barriers. Adequate hospitalization will depend upon the availability of facilities through our present means of transportation. Your committee feels that the planning for any new hospitals should be seriously considered and supervised by the county medical society which knows of actual needs and not left to the desires of some social planner.

Hospital insurance plans have developed in only two places. The Wesley Hospital plan in Wichita has grown to now comprise about

1900 members. Recent efforts to make the plan a city wide one to include all the hospitals failed to interest the other institutions. It has proved a great financial help to Wesley Hospital during recent financial stress and the membership is increasing daily. The plan as operated by Wesley Hospital in no way is objectionable to the profession.

There are six hospitals in Kansas approved by the A.M.A. for general internships and three approved for residencies in specialties.

Fifty-six hospitals in Kansas have physicians at the head of their pathological laboratories and seventy-four have M.Ds. in charge of their radiological departments. In both instances these figures indicate improvement in these services.

For complete authentic data based upon reports by all the individual hospital authorities, reference may be made to the Annual Report of the Council on Medical Education and Hospitals of the American Medical Association, which annual report appears each year in the hospital number of the American Medical Association Journal.

Dr. Ralph Fellows, chairman of the Stormont Medical Library Committee, was absent, and the Secretary was directed to secure this report for incorporation into the official minutes and publication in the Journal.

Dr. E. J. Nodurft, chairman of the Auxiliary Committee was absent, and the Secretary was directed to secure this report for incorporation into the official minutes and publication in the Journal.

To the House of Delegates, Kansas Medical Society:

Submitted by Dr. E. J. Nodurft, Chairman.

The State Medical Auxiliary was organized ten years ago, May 7, by the request of the State Society which was in session at that time in Topeka.

During this period the auxiliary has worked faithfully, in building up its organization, in order to be of any service which the State Society might ask.

The following counties with their respective membership which you may see are distributed very nicely over the state of Kansas:

Brown County, 13; Central Kansas, 12; Ford County, 18; Pratt County, 2; Labette County, 10; Montgomery County, 12; Wyandotte County, 61; Sedgwick County, 65; Wilson County, 12; members at large, 16.

These organizations have been of great assistance to the local county medical society, socially, by bringing the medical fraternity and their families closer together. Through public relations, they have helped the medical society educate the laity on preventive medium, by helping in school clinics, by using their local speakers bureau, etc.

Two years ago they were asked for the first time to perform a duty for the Kansas Medical Society. They compiled a map of the state showing the different legislative districts with their respective state representatives and senators; the locations and names of the doctors who belonged to the Kansas Medical Society; the chiropractors, osteopaths, and Christian Scientists. This map was shown at the state meeting held in Wichita and the American Medical Association meeting at Cleveland, Ohio.

This last year, they were asked to assist in putting the basic science law before the different lay organizations of the state of Kansas.

We, the men of the Kansas Medical Society, owe Mrs. W. G. Emery, of Hiawatha, the state auxiliary president, a vote of thanks for the splendid way in which she spread this gospel.

The Ladies Auxiliary of the state of Kansas sends their best wishes to this Medical Society and requests that the county societies who do not have an auxiliary urge their ladies to join this great movement.

Dr. H. L. Chambers, chairman of the Scientific Work Committee, reported that the scientific meeting now in session reflected the work of that committee.

Dr. J. F. Hassig, President, thus ordered the House of Delegates to be in executive session and invited the Medical Economics Committee to present its report. Dr. F. L. Loveland, chairman of the Medical Economics Committee, gave the report of that committee.

Dr. C. C. Nesselrode moved that the report be accepted, incorporated into the official minutes, and published in the Journal. Seconded by Dr. Omer West.

Dr. J. D. Colt asked information as to whom contemplated plans of county medical societies should be forwarded as designated by the term "Society" used in the report. The chair ruled that the central office was intended.

Dr. Omer West withdrew his second to Dr. C. C. Nesselrode's motion, and substituted a motion that the report be accepted, that it be forwarded to all county secretaries, and that it not be published in the Journal.

The motion was then amended to read as follows:

That the Medical Economics Committee be commended for its splendid work on this presentation, that the report of this committee be accepted, that it be forwarded to all county secretaries, that it not be published in the Journal, and that the Medical Economics Committee should be authorized as a reference committee for making suggestions and comments to the various county societies on plans they may desire to adopt. Seconded by Dr. Henry Tihen and carried.

The House of Delegates then arose from executive session.

The next order was unfinished business wherein Dr. C. C. Nesselrode moved that amendments to Article XIII, Section 3 and Section 4 of the Constitution reading as follows:

Section 3. All interest or other income accruing from the investment of all or any part of the Defense Fund shall be added to and become a part of said Defense Fund.

Section 4. If or when the Defense Fund shall have accrued to an amount in excess of ten thousand dollars (\$10,000.00) and two dollars per capita collected annually for defense shall be deducted from the annual membership dues until said Defense Fund shall have been reduced to not less than five thousand dollars, whereupon the collection of two dollars per capita for defense shall be resumed.

be finally adopted, inasmuch as they had been regularly approved and entered in the official minutes of the last meeting of the House of Delegates. Seconded and carried.

Dr. Tihen moved under new business that the following resolution be officially adopted by the House of Delegates:

WHEREAS, The approval of various products by the Committee on Foods of the American Medical Association and the approval of certain products by the Advertising Editor of Hygeia is leading to a rather wide-spread feel-

ing among the lay public, and even among the medical profession, that this is largely a plan for increasing the advertising revenue of the American Medical Association journals and of Hygeia, and

WHEREAS, the lay public, especially those interested in these various commercial foods and products, not infrequently term this activity of approval of certain products as a "medical profession racket", and

WHEREAS, it seems to the Kansas Society that this approval is not resulting in any real public benefit, and

WHEREAS, this activity is undoubtedly leading to considerable criticism of the medical profession and is arousing considerable ill will toward the American Medical Association and is thereby prejudicial to the position of the medical profession before the public;

BE IT RESOLVED that the delegates from Kansas be instructed to read these resolutions before the House of Delegates of the American Medical Association, and

BE IT RESOLVED that the Kansas Medical Society requests the House of Delegates of the American Medical Association to thoroughly consider this matter herein presented to see if further continuation of these activities by the American Medical Association is desirable in the best interests of either the medical profession or of the public whom we serve.

Seconded and carried.

Dr. C. C. Nesselrode presented the following report to the Cancer Committee with the request that it be considered for adoption, rejection, or modification at the second meeting of the House of Delegates:

To the House of Delegates, Kansas Medical Society:

This committee during the year 1934-1935 has held three committee meetings. Our chief effort has been expended in cooperation with the Kansas Federation of Women's Clubs, in lay educational work.

In August 1934, at the invitation of Mrs. J. E. Johntz, of Abilene, Kansas, president of the Kansas Federation of Women's Clubs, the chairman of your committee attended a meeting in the office of Dr. Earle G. Brown, Topeka, Kansas, at which there was present the presidents of eleven different women state organizations. This meeting was called by Mrs. Johntz. Mrs. Johntz, presented to these

eleven women the suggestion that each as president of state organizations, urge their units to include in the annual program, at least one meeting devoted to the study of the health problem from a woman's standpoint. She further suggested as one of the chief topics for discussion, the importance of the cancer problem. In addition to the eleven presidents mentioned above, there was present at this meeting, Dr. Brown, secretary of the State Board of Health, Dr. Walker, president of the Kansas Dental Association and myself as chairman of the Cancer Committee, Kansas Medical Society. After Mrs. Johntz had presented her suggestion, she asked that each of us three men offer suggestions:

1. As to the advisability of this health program.
2. As to the topics to be discussed.
3. The method of preparation of the program.

Representing your committee I stressed the importance of the cancer problem, because of the fact that it is the most important single health topic from the adult woman's standpoint; it being a statistical fact that one in seven of the women beyond the age of thirty-five will die of cancer. I urge that at their district or state meetings, they invite a medical man to discuss this subject for them. As to their individual club programs, that they appoint one of their members to prepare a paper, dealing with the importance of this subject, its recognition and its treatment. That, they also select two members to open the discussion on this paper and we also advised as to the source from which these three women might obtain information. Our thought was that if in each individual club three women would familiarize themselves with this subject, that they would constitute a nucleus from which would spread a lot of correct information concerning cancer, and its treatment. We offered to these club women the services of our committee, telling them that we would undertake the responsibility of supplying them with speakers for their district and state meetings. Of the eleven organizations, only three of them insofar as we know organized such a program. Of these, the Kansas League of Women's Voters, held one public meeting in Lawrence, Kansas. The state meeting of the W.C.T.U. was addressed by a member of our committee. The greatest activity was con-

ducted under the direction of the Kansas Federation of Women's Clubs. Insofar as I am able to determine, some member of this committee addressed each of the district meetings, with two exceptions. The second district was addressed by Dr. Logan Clendenning, of Kansas City, Missouri, who is not a member of our committee. In the fifth district, no meeting was held. At the state general meeting held in Pittsburg in April, the address was given by the chairman of your committee. In addition to these district and state meetings, a number of smaller meetings were held, giving in all of the districts, a total of thirty-five different meetings, the program being prepared in the manner indicated above. Your committee feels that this matter of public education should continue to receive attention. The Kansas Federation of Women's Clubs, have adopted a resolution at their state meeting, a copy of which is attached herewith, pledging themselves to the continuation of the program and to cooperate with any rational program which is to be outlined by the Kansas Medical Society.

This House of Delegates, will recall that under the direction of your Cancer Committee, there was carried on in 1933, a Cancer Survey of the state of Kansas. That this was presented to the House of Delegates last year. That, the formal adoption of the same was delayed until this year and that the consideration of this report is a part of the duty of this House of Delegates this year. We assume that each member of the House has read this report and has studied particularly the recommendations, twenty-one in number, that was made following the report. Your committee recommends the adoption of this survey and further recommends as a substitution for the recommendations, the adoption of the following program.

1st. That the Kansas Medical Society, instruct its Cancer Committee to continue the promotion of the educational program under two parts.

(a) Professional educational program, urging at least one program in each county medical society, during each year, devoting the same to the discussion of the cancer problem.

It is the judgment of your committee that rather than the presentation of a paper upon Cancer of the Breast, Cancer of the Stomach, which of course, are valuable, that there should

be at least one meeting in each county medical society, devoted to the discussion of the cancer problem, as a whole, of the newer developments in cancer research; a discussion concerning the solving of this question and a recognition of the duty of the profession with reference to the problem of lay education.

(b) That under the direction of your committee there shall be continued efforts towards lay education. It is the judgment of the committee, that the best approach to this program is through the avenue of the various ladies' organizations.

The sum total of these two programs would be a better understanding on the part of the profession and the public of the importance of the cancer problem, and secondly, a better understanding between the profession and the public on the part that each is to play in the solution of this problem, particularly in early recognition and early treatment. It is further the recommendation of the committee that each county medical society be used insofar as is practical as the unit for instructing both lay and public education.

2nd. The Kansas Medical Society, to empower its committee with the authority to encourage the establishment of cancer groups, throughout the state. These groups to be of two types. The first, diagnostic groups and secondly, diagnostic and treatment groups. That for the purpose of organizing these groups, there be adopted by this House of Delegates, as a standard of minimum requirements of these groups, the standards outlined by the American College of Surgeons for such groups, a copy of which is attached hereto.

Your committee, suggests some modification of the standards outlined, insofar as the standard requirements concern but one type of group for our organization within the state of Kansas, there should be two types. One to be known as the diagnostic and the other as diagnostic and treatment group. The difference being that the second would require a more extensive organization and would require adequate equipment for surgical and irradiation treatment. The first type would not necessarily need such equipment. It would be the duty of your committee, to recommend the formation of such groups, but not to promote the same. That when such groups are

formed, that they apply to your committee for approval and that these groups meet this minimum standard of requirement which would be recognized by your committee and therefore by your society, as a group, approved by the Kansas Medical Society.

It would be the hope of your committee, that such an approved group would be within a thirty mile distance of any and every citizen in the state of Kansas. Such a program would serve the purpose of making the profession thoroughly cancer minded. It would help to promote proper education and secondly would stimulate recognition and early treatment. Such a program would further establish some sort of standard whereby the public may protect themselves from illegitimate cancer quacks.

Minimum Standard For Cancer Clinics In General Hospital

1. ORGANIZATION. There shall be a definite organization of the service, and it shall include an executive officer and representatives of all the departments of the hospital which are concerned in the diagnosis and treatment of cancer. The services of a secretary and of a social service worker shall be available.

2. CONFERENCES. As an essential feature of the service there shall be regular conferences or consultations at which the diagnosis and treatment of the individual cases are discussed by all members of the clinic who are concerned with the case.

3. PATIENTS. Reference to the cancer clinic of all patients in whom the diagnosis or treatment of cancer is to be considered shall be either voluntary or obligatory in accordance with the vote of the medical staff or of the governing board of the hospital.

4. EQUIPMENT. In addition to the diagnostic and therapeutic surgical equipment which is required in every approved general hospital there shall be available an apparatus for x-ray therapy of an effectiveness which is generally agreed upon as adequate, and an amount of radium sufficient to insure effective treatment.

5. RECORDS. In addition to the records which are required in every approved general hospital, there shall be additional records of: (a) The details of the history and of the examination for cancer in different regions of the body, such as are indicated on the form records which are recommended by the Committee on the Treatment of Malignant Disease, American College of Surgeons; (b) The details of the

treatment of radium or x-ray as indicated on the form records which are recommended by the Committee on the Treatment of Malignant Diseases, American College of Surgeons; (c) Periodic examinations at intervals for a period of at least five years following treatment.

6. TREATMENT. The treatment of cancer patients shall be entrusted to the members of the staff of the cancer clinic except in cases in which adequate treatment in accordance with the collective recommendation of the staff of the cancer clinic can be procured otherwise.

Copy of Resolutions Adopted by The Kansas Federation of Women's Clubs

Adopted by Mrs. Donald Muir, Chairman Public Health, Kansas Federation of Women's Clubs, and adopted by the delegate body April 10, 1935.

WHEREAS, Cancer is the most important single health problem for the adult woman, since one in seven or eight of the women past thirty-five years of age will die of cancer, and

WHEREAS, Cancer education is of utmost importance because the only hope of cure rests in early recognition, which comes through more comprehensive knowledge of the disease, therefore be it

RESOLVED, That the Kansas Federation of Women's Clubs, in Convention assembled in Pittsburg, April 8-9-10, 1935, pledged itself to a continuation of its educational campaign on cancer control, and further declares its willingness to get behind an adequate program suggested by the Kansas Medical Society, through its Cancer Committee.

Adjournment followed.

The House of Delegates met in its second regular session at 8:30 a. m. on May 10 in the DeMolay Room of the Masonic Temple. Dr. J. F. Hassig, president, served as presiding officer.

The executive secretary was instructed to call the roll, and 64 votes were declared present.

First order of business was election of officers, during which the following were unanimously elected:

President-elect.....Dr. H. L. Snyder, Winfield
Vice President.....Dr. L. D. Johnson, Chanute
Treasurer.....Dr. Geo. M. Gray, Kansas City
Constitutional Secretary.....
.....Dr. H. L. Chambers, Lawrence

Dr. J. F. Hassig was unanimously selected as a delegate to the 1935 and 1936 meetings of the House of Delegates of the American Medical Association.

Dr. J. D. Colt, Sr., moved that the Society reimburse Dr. J. F. Hassig and Dr. W. F. Bowen for traveling and hotel expenses incurred in attendance at the 1935 meeting of the House of Delegates of the American Medical Association. Seconded and carried.

Dr. Hugh A. Hope moved that the constitution be amended to provide for payment by the Society of traveling and hotel expenses of all future Kansas Medical Society delegates to meetings of the House of Delegates of the American Medical Association. The motion was seconded, and discussion followed that arrangements should be made each year rather than permanently in the constitution. The motion was lost.

Next order of business was election of councilors for the fourth district, fifth district, ninth district and eleventh district. Dr. H. N. Tihen moved that delegates from those districts retire for election of their councilors. The following councilors were announced as elected:

Fourth District....Dr. J. L. Lattimore, Topeka
Fifth District...Dr. Marion Trueheart, Sterling
Ninth District...Dr. Walter Stephenson, Norton
Eleventh District...Dr. A. C. Armitage, Kinsley

Dr. C. C. Nesselrode stated that he did not believe Dr. J. F. Hassig's account in the amount of \$712.00 for services rendered to the Society had been properly approved in the prior meeting of the House of Delegates, and discussion followed. Dr. Nesselrode then moved that the recommendation of the Council for payment of this account be approved, and that officers of the Society be instructed to make payment. Seconded and carried unanimously.

Dr. O. P. Davis moved that necessary traveling expenses of officers and committee members should be defrayed by the Society. After discussion to the effect that arrangements of this kind should be made by the Council, Dr. Davis ascended, and withdrew his motion.

Upon order of Dr. J. F. Hassig, presiding officer, consideration of the report of the Cancer Committee presented at the preceding meeting of the House of Delegates was resumed. Dr. C. C. Nesselrode, chairman of the Cancer Committee, again read the report, and requested careful consideration of the House of Delegates for further instruction to that committee. Dr.

L. D. Johnson moved that the report of the committee be approved, that the committee continue, and that the committee be commended for its work, with the suggestion that they cooperate with the small hospitals and refrain from centralized units. Seconded and carried.

Dr. L. F. Barney moved that the House of Delegates arise in a vote of thanks to the Saline County Medical Society for its efficient and successful presentation of this meeting of the Society. Seconded and carried unanimously.

Dr. H. N. Tihen moved that the nominal amount of dues for 1936 be continued at \$10.00 per member. Seconded and carried.

The meeting then adjourned.

COUNCIL MEETING

A meeting of the Council was held at 11 o'clock in the morning in the DeMolay Room of the Masonic Temple. Dr. J. F. Hassig, president, served as presiding officer.

Officers present were: Dr. J. F. Hassig, Kansas City; Dr. H. L. Snyder, Winfield; Dr. Geo. M. Gray, Kansas City; Dr. H. L. Chambers, Lawrence. Councilors present were: Dr. C. C. Stillman, Morganville; Dr. H. L. Lattimore, Topeka; Dr. E. C. Duncan, Fredonia; Dr. A. C. Armitage, Kinsley; Dr. C. H. Ewing, Larned; Dr. N. E. Melencamp, Dodge City; Dr. H. E. Snyder, Winfield; Dr. L. F. Barney, Kansas City; Dr. Alfred O'Donnell, Ellsworth; Dr. C. D. Blake, Hays; Dr. Marion Trueheart, Sterling; Dr. H. N. Tihen, Wichita. Clarence Munns was present as executive secretary.

First order of business was the selection of place for the 1936 meeting of the Society. Dr. J. G. Hughbanks extended an invitation on behalf of the Montgomery County Medical Society and the Independence Chamber of Commerce for the meeting to be held in Independence. Dr. J. L. Lattimore extended the invitation on behalf of the Shawnee County Medical Society and the Topeka Chamber of Commerce for the meeting to be held in Topeka. Dr. J. F. Hassig, presiding officer, declared a ballot upon the two invitations from which Topeka was selected.

Dr. E. C. Duncan moved that the 1936 meeting of the Society should be held on Wednesday, Thursday and Friday of the second week in May, 1936. Seconded and carried.

Dr. H. N. Tihen moved that the program for the 1936 meeting be arranged for approval of the Council at its mid-winter meeting by the president and the members of the Shawnee County Medical Society. Seconded. Dr. E. C. Duncan offered an amendment that three officers of the Society be requested to assist Shawnee County Medical Society in preparation of the scientific program. After discussion Dr. Tihen's motion was withdrawn, and Dr. Tihen moved that the program be arranged and approved as in the past. Seconded and carried.

Next order of business was the following report concerning the Journal of the Kansas Medical Society presented on behalf of the Editorial Board:

The Editorial Board submits the following report of the Journal of the Kansas Medical Society for the period of May 1, 1934, to and including April 30, 1935:

All records and properties of the Journal were transferred to the Editorial Board, composed of Dr. W. M. Mills, Editor, Dr. L. R. Pyle, Dr. R. B. Stewart, and Dr. F. C. Taggart, by Dr. Earle G. Brown, former Editor, on October 1, 1934. These were found to be in good condition, accounts were shown as paid to date, and the Board was thereby enabled to institute its term with a minimum of difficulty.

Under present organization, the Editorial Board serves gratuitously, and actively supervises all functions pertaining to preparation and publication of the Journal. A staff of associate editors consisting of Dr. W. M. Brewer, Hays; Dr. Murray Eddy, Colby; Dr. C. L. Hooper, Dodge City; Dr. Fred J. McEwen, Wichita; Dr. H. E. Marchbanks, Pittsburg; Dr. Donald N. Medearis, Kansas City; Dr. Phillip W. Morgan, Emporia; Dr. L. S. Nelson, Salina; Dr. R. T. Nichols, Hiawatha; Dr. Thomas G. Orr, Kansas City; Dr. George Paine, Hutchinson; Dr. J. N. Sherman, Chanute; and Dr. H. E. Snyder, Winfield, assists in securing material and in forwarding suggestions for improvement, and the executive secretary office cooperates in business and mechanical functions. The plan has operated smoothly insofar as ability to accomplish necessary work is concerned.

Financial condition, at the present time, is believed to be satisfactory, and monthly income is somewhat in excess of monthly expense. Totals of an itemized financial statement for the

year are as follows:

1. For May 1, 1934, to October 1, 1934:

Cash on hand as of May 1, 1934.....	\$ 142.22
Received from the Kansas Medical Society	1,950.00
Income from the Journal	1,528.71
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Total income this period	\$3,620.93
Total expense this period.....	3,480.64
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Surplus as of October 1, 1934.....\$ 140.29

2. For October 1, 1934, to May 1, 1935:

Cash on hand as of Oct. 1, 1934.....	\$ 140.29
Income from the Journal.....	2,274.21
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Total income this period.....	\$2,414.50
Total expense this period.....	1,865.75
Refund of professional cards.....	73.25
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Surplus as of May 1, 1935.....\$ 475.50

The present amount of \$475.50 represents actual cash on hand, and if additional accounts receivable of \$281.39 and accounts payable of \$259.75 for the April issue are considered, there is a book surplus of \$497.14 as of May 1, 1935.

Printing costs were increased on January 1, 1935, from approximately \$200.00 to \$250.00 per issue by reason of certain changes in the Graphic Arts Code. The Board feels that income should be adjusted to this extent, and is therefore considering an increase in advertising rates which are now thought to be rather low.

Likewise, plans are being made with the executive secretary for institution of an advertising campaign on or about June 1. Considerable activity is thought possible in this direction, and added income would permit the Board to provide more pages, new sections, and several additional services it has in mind. This would also make possible creation of an amortized reserve fund for the Journal.

The Board feels that the Journal should contain all possible articles and editorials from Kansas physicians. It would appreciate any assistance the Council can give in securing material, and it desires any official or individual criticism that can be given.

Respectfully submitted,

W. M. MILLS, M.D., Editor.

Dr. Alfred O'Donnell moved that the report be accepted. Seconded and carried.

Dr. H. N. Tihen moved that a vote of thanks be extended to the Editorial Board for its splendid work and accomplishments, that the Editorial Board be permitted to expend funds of the Journal within its discretion, and that funds of the Journal be maintained separate from other Society funds under direction of Dr. Geo. M. Gray, treasurer. Seconded and carried.

Dr. L. F. Barney moved that as in the past the Journal not be forwarded to unpaid members. Seconded and carried.

The executive secretary presented the following resolution as adopted by the House of Delegates of the Kansas State Dental Association at its regular meeting in Wichita on April 22, 1935:

WHEREAS, The Kansas State Dental Association does unqualifiedly believe in the ethical practice of the healing art.

WHEREAS, It firmly believes that all practitioners and professions of the healing art should stand ready and willing at all times to restrict practice that is unethical, and to raise standards of public health.

WHEREAS, It firmly believes that all practitioners and professions of the healing art should be educationally well founded in the fields they pursue, and that they should be willing to insure that fact to the public.

WHEREAS, It firmly believes that the Kansas State Dental Association and the Kansas Medical Society have long stood for those qualities in the face of unjust and oppressive opposition from other practitioners and professions of the healing art. Be it therefore

RESOLVED, That the members of the Kansas State Dental Association do hereby place themselves on record as commending and approving the ideals and official actions of the Kansas Medical Society toward this result; and that until such time as members of other professions of the healing art demonstrate and manifest a willingness and intention to cooperate in the betterment and protection of public health, then shall the members of the Kansas State Dental Association consider it unethical and undesirable for public good, to cooperate professionally with those practitioners.

Dr. H. N. Tihen moved that Dr. J. F. Hasing be authorized to prepare a similar resolution on behalf of the Kansas Medical Society

for return to the Kansas State Dental Association. Seconded and carried.

Dr. L. F. Barney moved that the officers of the Society be authorized to reimburse the Saline County Medical Society for expenses in connection with this meeting to the extent of \$600.00, and that any additional amounts necessary should be approved by the Council. Seconded and carried.

Dr. N. E. Melencamp moved that the executive secretary be instructed to notify the Nebraska State Medical Association, the Oklahoma State Medical Association and the Missouri State Medical Association as to the date of the 1936 meeting of the Kansas Medical Society to avert, if possible, a conflict of meeting dates of the four societies. Seconded and carried.

Next order of business was election of a member of the Medical Defense Board arising through the expiration of the term of Dr. O. P. Davis. Dr. Davis was nominated to succeed himself. A constitutional question arose as to whether he could be re-elected by reason he was ineligible for further term as a councilor, and as members of the Medical Defense Board must be members of the Council. Discussion followed that Dr. Davis was the best qualified member of the Society to serve in this capacity. Dr. L. F. Barney moved that no successor be elected, that Dr. O. P. Davis be requested to continue under provision in the constitution that a present officer shall serve until his successor is duly elected, and that the constitution to be submitted by the Committee on Revision of the Constitution and By-Laws be corrected to eliminate this difficulty. Seconded and carried unanimously.

Dr. H. N. Tihen moved that the executive secretary be instructed to attend the meeting of the American Medical Association at Atlantic City, New Jersey, on June 10, 11, 12, 13, 14, 1935, and that his necessary expenses be allowed. Seconded and carried.

The meeting then adjourned.

MEETING OF THE SECRETARIES OF THE COUNTY MEDICAL SOCIETIES

A meeting of secretaries of the county medical societies was held on May 8 at 12:15 o'clock at the Clayton Hotel. Dr. H. L. Chambers, secretary, served as presiding officer.

Members present were: Dr. J. F. Hassig, Kansas City; Dr. L. S. Steadman, Junction City; Dr. D. A. Bitzer, Washington; Dr. F. R. Croson, Clay Center; Dr. L. V. Dawson, Ottawa; Dr. F. L. Loveland, Topeka; Dr. O. W. Davidson, Kansas City; Dr. L. R. McGill, Hoisington; Dr. E. H. Johnson, Chanute; Dr. F. L. DePew, Howard; Dr. J. M. Porter, Concordia; Mr. Mac F. Cahal, Wichita; Dr. T. E. Homer, Atchison; Dr. H. E. Charles, Atchison; Dr. J. J. Tretbar, Stafford; Dr. R. M. Wyatt, Morrill; Dr. Wm. E. Janes, Eureka; Dr. A. S. Hawkey, Newton; Dr. K. L. Druet, Salina; Dr. C. D. Bell, Pittsburg; Dr. S. N. Chaffee, Talmage; Dr. W. G. Emery, Hiawatha; Dr. W. J. Singleton, LaCrosse; Dr. A. M. Lohrentz, McPherson; Dr. W. O. Nelson, Lawrence; Dr. W. N. Mundell, Hutchinson; Dr. H. L. Snyder, Winfield; Dr. L. F. Barney, Kansas City; Dr. H. L. Chambers, Lawrence; Dr. E. C. Duncan, Fredonia; Dr. C. C. Stillman, Morganville.

Dr. E. C. Duncan spoke on behalf of the Legislative Committee, and Dr. F. L. Loveland spoke on behalf of the Medical Economics Committee.

In a general round table discussion methods for handling bulletins and other services of the central office were discussed.

Decision was made that a similar meeting should be held next year.

The meeting then adjourned.

MEDICAL LITERATURE

Edited by Will C. Menninger, M.D., Topeka, Kansas

EXPERIMENTAL GOITER

Hellwig presents a further report of his study of the production of goiter in white rats. His experiments, which are extremely interesting, show that a calcium rich diet produces definite goiters in these animals, and that when the diet is poor in iodine the goiters are parenchymatous, colloid-poor, and iodine-poor. When the diet is relatively rich in iodine the goiters produced are colloid-rich and iodine-rich. The calcium content of the blood serum is twice as high in the animals with the parenchymatous goiters as it is in the animals with colloid goiters. The results which he finds in these studies with white rats with regard to functional, chemical, and morphological pictures are

(Continued on Page 296)

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Laryngoscope, 1935, XLV, 149-154★

SEE ALSO

Pharmacology of Inflammation: III. Influence of hygroscopic agents on irritation from cigarette smoke.

Proc. Soc. Exp. Biol. and Med., 1934, 32, 241-245★



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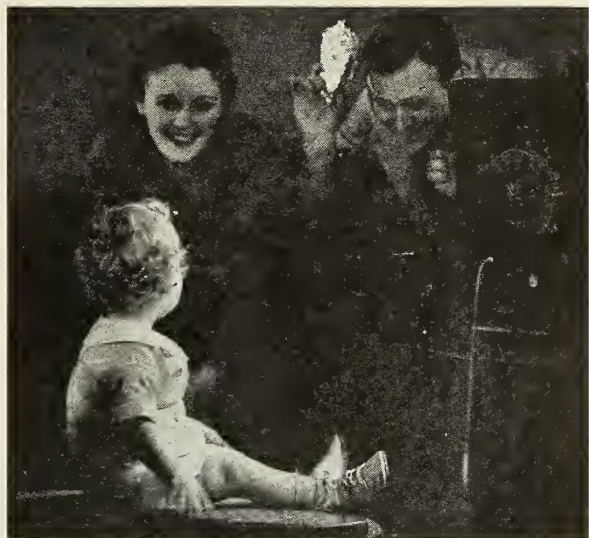
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in accord with the epidemiological facts observed in human goiter.

Hellwig, C. A.: Experimental Goiter, Functional, Chemical and Histologic Study. *Arch. Path.* 19:364-371 (Mar.) 1935.

CEREBRAL BLOOD FLOW DURING SLEEP

In this paper the authors summarize the old literature in which it was assumed that sleep was caused by a lessened flow of blood to the brain in man. By means of a thermo-electric blood flow recorder inserted deep into the internal jugular vein these observers note that the onset and termination of sleep in subjects without sleep disorders were not accompanied by a significant change in the flow of blood through the brain.

Gibbs, F. A., Gibbs, E. L. & Lennox, W. G.: The Cerebral Blood Flow During Sleep in Man. *Brain* 58:44-48 (Mar.) 1935.

EFFECT OF SCARLET FEVER ON IMMUNITY TO DIPHTHERIA

The authors, associated with the Scarlet Fever Service of the Willard Parker Hospital in New York City, report a study of 219 hospital patients with scarlet fever in which eight patients lost their immunity to diphtheria as determined by the Schick test. It is their contention that every patient with scarlet fever should be given a Schick test during the convalescence. Until it has been demonstrated that a positive reaction to the Schick test may revert spontaneously to a negative one following an attack of scarlet fever, the patient should be immunized if the reading is found to be positive. Of the group of patients to whom antitoxin had been administered 1.6 per cent lost their immunity to diphtheria as compared with 6 per cent of the group of patients to whom no antitoxin was administered.

Kojis, F. G., and Craig, J. D.: Effect of Scarlet Fever on Immunity to Diphtheria as Determined by the Schick Test. *Am. J. Dis. Child.* 49:383-389 (Feb.) 1935.

THE ETIOLOGY OF DIET IN CHRONIC ARTHRITIS

Hall and Myers of the Thorndike Memorial Laboratory in Boston report this study of twenty-seven patients with hypertrophic arthritis, forty with atrophic (rheumatoid) arthritis, and eight with chronic infectious arthritis. In this group they study the life dietary habits and use as controls thirty patients without symptoms in the joints. Fifty-nine per cent of the patients with hypertrophic degenerative arthritis had had an excess of calories in their diets for years in contrast to forty-three per cent of the control group. Diets of inadequate caloric content were found in twenty per cent of the patients with atrophic rheumatoid ar-

thritis as compared with three per cent in the control group. No direct relationship could be established between the dietary factors and the development of the chronic arthritis. Neither excessive consumption of carbohydrates nor a deficiency of the various vitamins and minerals per se was found to be related to the development of the chronic arthritis.

Hall, F. C. & Myers, W. K.: Diet in Chronic Arthritis. *Arch. Int. Med.* 55:403-410 (Mar.) 1935.

ENDOCRINE FINDINGS IN BEHAVIOR

The authors of this paper made a careful examination of one hundred inmates of the Massachusetts Reformatory for Women by hospitalizing them for a period of seven days and carrying on the necessary clinical and laboratory examinations. Fifty-four of this group presented a primary endocrine disorder, while the remainder of the group with but minor exceptions did show non-endocrine organic disturbances of significant gravity. These authors do not attempt to imply a causal-result relationship but do believe that the trend of association as shown between the very frequent occurrence of endocrine and other organic findings in this group of women of the reformatory is potentially suggestive.

Rowe, A. W. & Van Waters, M.: Physical Associations in Adults With Behavior Problems. *Endocrinology.* 19: 129-143 (Mar.-Apr.) 1935.

ARTIFICIAL PNEUMOTHORAX

The treatment of lobar pneumonia by artificial pneumothorax is reported by Holmes and Randolph in a series of eighteen cases. They present the details of the technique as well as their observations following the procedure and their results. They present a glowing report in which they regard the artificial pneumothorax as decidedly beneficial as a treatment method. They call attention to the fact that the pleurisy pain was much reduced and the depth of respiration increased. The toxemia is reduced and the duration of the pneumonia was shortened. They believe that the spreading involvement to new lobes is checked and that the total mortality is decreased. They pointed out that there is some danger in the formation of adhesions as well as spontaneous collapse and empyema, all of which are increased in children.

Holmes, F. G., and Randolph, H.: Treatment of Lobar Pneumonia by Artificial Pneumothorax. *Ann. Int. Med.* 8:1008-1027 (March) 1935.

VASCULAR CRISES

Riesman of Philadelphia presents a review and discussion of the various type of vascular

The Treatment of EARLY SYPHILIS

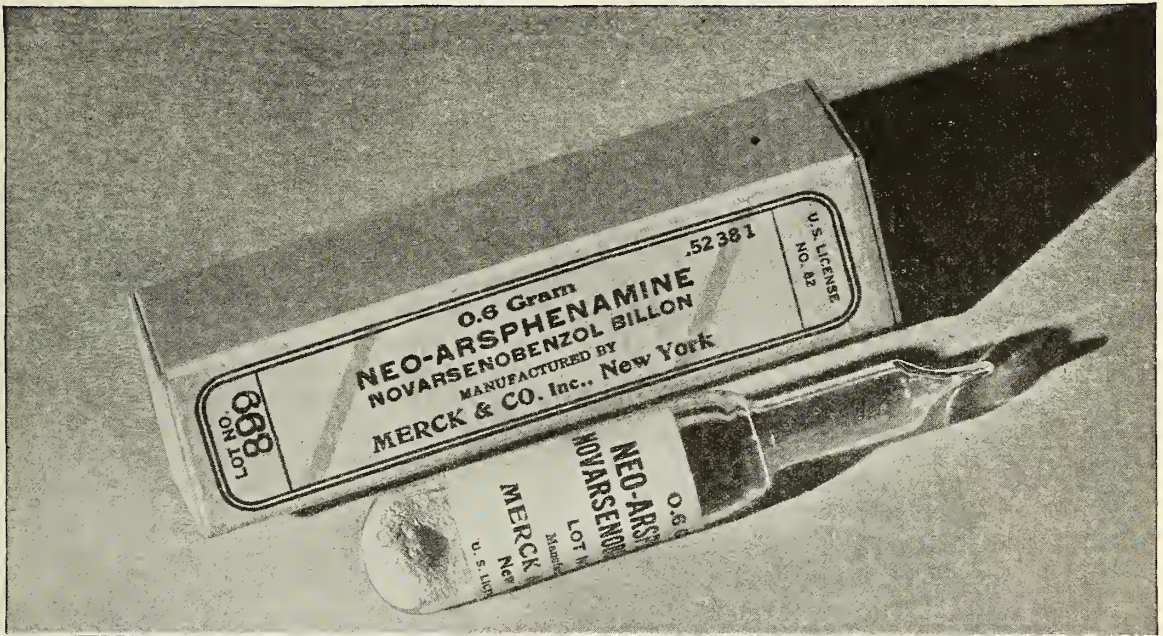
THE TREATMENT of early syphilis advocated today involves such basic principles as the use of an arsphenamine as the foundation of the treatment, the use of a heavy metal as an adjuvant (preferably bismuth intramuscularly), and the continuation of

treatment without a rest period for a period of one year after all symptoms and signs of the disease have disappeared.

These fundamentals have evolved from a painstaking study, by a group of university clinics in collaboration with the U. S. Public Health Service, of records covering a fifteen year period. Their report may be considered as the most authentic information available today relative to the satisfactory treatment of early syphilis. The method of treatment advocated is known as:—

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crises, specifically, the general constrictor crises, the local vascular crises, and follow this with a discussion of the causes of these particular spasms. He presents various causes for the vascular disease of the extremities including Raynaud's disease, scleroderma, acrocyanosis, and erythromelalgia. He presents various methods of determining the seat of the obstruction by inspection and palpation, measurement of surface temperature, oscillometry, calorimetry, the histamine test, and roentgen rays. His article is concluded by a brief discussion of various treatment methods at hand for these various conditions.

Riesman, D.: Vascular Crises. *Ann. Int. Med.* 8:1047-1061 (March) 1935.

THE TUBERCULOSIS OF CHILDHOOD

Smith of the Children's Medical Service of Bellevue Hospital, New York, presents a very thorough study of the occurrence of tuberculosis of childhood. He discusses the pathogenesis, course, the incidence, the clinical varieties, the diagnosis, and the treatment. In his conclusions he states that all children are not infected and therefore the tuberculin test is the most valuable diagnostic aid. The effect of the disease on the temperature and the weight curves more often suggest the diagnosis than local signs of disease of the lungs. The roentgen rays often makes a surprising diagnosis but may show very little or nothing in a child with definite constitutional symptoms. Although tuberculosis is a serious disease in infants they usually recover from primary complex and often from secondary lesions. Older children do well when properly handled.

Smith, C. H.: Tuberculosis of Childhood. *Ann. Int. Med.* 8:1099-1120 (March) 1925.

TRANSMISSION OF SYPHILIS BY BLOOD TRANSFUSION

The authors of this article associated with the Department of Medicine of Jefferson Medical College review the literature on the subject of transmission of syphilis by blood transfusion. They cite four instances of the use of syphilitic donors, in one case of which there is the strong clinical suggestion that early neurosyphilis was acquired by blood transfusion. The use of syphilitic donors they believe is prevalent even with the added guard of modern laboratory tests. They made suggestions as to how the transmission of syphilis can and should be prevented in the great majority of cases.

Jones, H. W., Rathmell, T. K., and Wagner, C.: The Transmission of Syphilis by Blood Transfusion. *Am. J. Syphil. & Neurol.* 19:20-38 (January) 1931.

THE DEPRESSION AND MENTAL DISEASE

Another periodic article has appeared on this subject written by the statistician of New York State Mental Hygiene Commission regarding the relationship between the depression and mental disease as indicated by admissions to state hospitals in New York state. He notes that the trend in the rate of first admissions has been rising since 1924, and that the rate of increase is higher than the discharges and deaths. There has been a slight upward trend in the first admissions of senile psychoses and a marked increase in the arteriosclerotic group. A slowing rising trend was noted in the alcoholic group which he believes is affected more by liquor legislation than by economic conditions. There is a slight increase in the manic-depressive group and a significant increase in the rate of dementia praecox first admissions since 1927. It is the author's conclusion that the economic crisis does not seem to be the dominant factor in the increase of first admissions in any one diagnostic group. It is, however, a precipitating factor of importance in all groups.

Pollock, H. M.: The Depression and Mental Disease in New York State. *Am. J. Psychiat.* 91:763-771 (Jan.) 1935.

THE EFFECTS OF BLOOD TRANSFUSIONS ON DONORS

In a careful study with many observations made on ten donors who had given from one to twenty-three transfusions each, the authors came to the conclusion that there are no ill effects, or only slight ones, if 500 cc. are given at a time and no oftener than once in three months. The average reduction of red blood cells when 500 cc. of blood was taken was 310,000 per cubic millimeter which was regained in most instances in from four to six days. The hemoglobin drop averaged 5.2 per cent and there was an initial weight loss of 1.5 pounds which was regained in nearly every instance within two days. The blood pressure was only slightly reduced and rose within six hours. The female donor regained her blood cells and hemoglobin more slowly than the male donors, and individuals with a tendency to anemia should apparently not be used as donors.

Martin, J. W. & Myers, J. T.: The Effects of Blood Transfusions on Donors. *J. Lab. & Clin. Med.* 20:593-597 (Mar.) 1935.

PHYSICAL CONSTITUTION AND DISEASE

Feigenbaum and Howat in the Department of Medicine of McGill University report a study of 192 patients in which they made

(Continued on Page 300)

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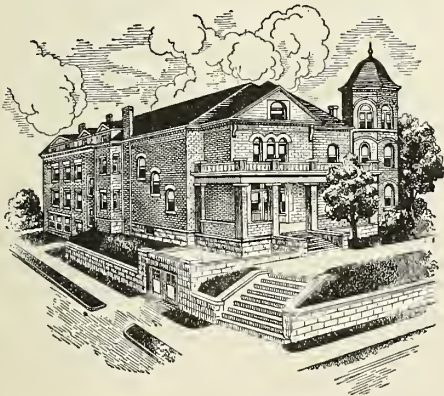
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thirty-seven measurements on each patient. These patients were divided as follows: seventy-nine with diabetes, sixty-seven with peptic ulcer, and forty-six with cholecystitis. The diameters and indexes which were obtained were submitted to statistical computations. The results showed that with a few exceptions there were no anatomical characteristics distinctive of patients with diabetes mellitus, peptic ulcer or cholecystitis. They believe that they are in agreement with the figures of Draper although opposite conclusions were reached because of the different statistical approach.

Feigenbaum, J. and Howat, D.: Physical Constitution and Disease. II. Absence of Correlation Between the Anatomic Constitution and the Predisposition to Diabetes Mellitus, Cholecystitis and Peptic Ulcer. *Arch. Int. Med.* 55:445-456 (Mar.) 1935.

GENITAL HORMONES IN HEMOPHILIA

The writers of this article, associated with the Thorndike Memorial Laboratory in Boston, call attention to the fact that because hemophilia occurs only in males there may be some possibility that the genital hormones of the female prevent its occurrence in women. They discuss the subject and the literature dealing with it and report the study of two patients with hemophilia; these men were investigated for periods of ten and thirteen months respectively, receiving no specific therapy except preparations of estrogenic substance by mouth and subcutaneously, the hormone of corpus luteum intramuscularly, and the gonad-stimulating hormone from the urine of pregnant women subcutaneously. The administration of these hormones was not associated with a demonstrable improvement in the clinical condition or with a significant diminution in the coagulation time of the blood. It is the author's conclusion that the hormones investigated in this study do not exert a fundamental influence in hemophilia.

Chew, W. B., Stetson, R. P., Smith, G. V. S., and Smith, O. W.: Estrogenic, Luteal and Gonadotropic Hormones in Hemophilia. *Arch. Int. Med.* 55:431-444 (Mar.) 1935.

LARYNGEAL TUBERCULOSIS

In a special article, Wood of Philadelphia, summarizes the recent literature on laryngeal tuberculosis. It is impossible to summarize this article briefly but it contains a great many valuable bits of information collected from an extensive review of the recent literature covering the subject of laryngeal tuberculosis which would be of special interest to any otolaryngologist.

Wood, G. B.: Laryngeal Tuberculosis. *Arch. Otolaryng.* 21:210-222 (Feb.) 1935.

NEWS NOTES

DR. EARLE G. BROWN HONORED

Dr. Earle G. Brown, Secretary of the Kansas State Board of Health, Topeka, was elected vice-president of the Conference of the State and Provincial Health Authorities of North America, at a meeting of the conference at Atlantic City, New Jersey, on June 14 and 15. Dr. Brown has been a member of this organization since 1925, serving in the capacity of Chairman of the Milk Committee since 1930 and as a member of the Executive Committee since 1932. His paper on "Dust" presented during the meeting, received such favorable comment, that he was asked to deliver the high points of the paper on the radio, over the National broadcasting system.

SEDGWICK MEDICAL BUILDING

The Sedgwick County Medical Society offices will be permanently established in the building at 135 North Main street in Wichita within the next year. A special committee selected from the Board of Directors carried on a thorough investigation before the purchase was made from Dr. Thomas Holt. In addition to housing the offices of Mac Cahal, executive secretary of the society, and his assistants, the headquarters will contain a large and comprehensive medical library and an auditorium for scientific meetings of the society. The building will undergo extensive remodeling before the society offices will be occupied. The second floor will be used for the offices and the lower floor will be leased to a commercial firm.

MEMBERS

Dr. G. B. Athy, has commenced practice at Columbus with Dr. C. C. Fuller. Dr. Athy recently completed his internship at St. Margaret's Hospital in Kansas City.

Dr. W. F. Bowen, Topeka, was selected as a member of the Health and Hygiene Committee at the American Medical Association convention held in Atlantic City in June.

Dr. R. M. Brian, Topeka, began medical practice in El Dorado the first part of June, after serving as one of the physicians in the Santa Fe and Topeka State Hospitals in Topeka. He will be associated with Drs. C. E. Boudreau and J. M. Devereux.

Dr. Arthur E. Hertzler, Halstead, was presented with an award of merit "in recognition of worthy achievement which has reflected credit upon Northwestern University and each of her alumni" on May 15 in Wichita.

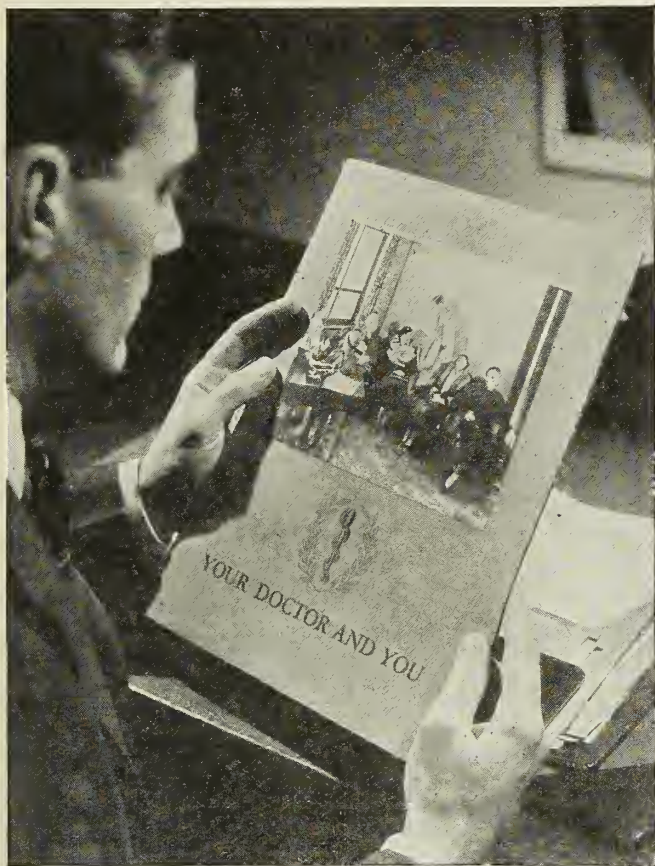
Dr. J. H. Saylor, Marion, was elected president of the State Association of Public Health Officers and Nurses at a meeting held in Topeka in May.

NEW BOOKS RECEIVED

THE NERVOUS PATIENT by Dr. Charles Phillips Emerson, research professor of medicine, Indiana Uni-

(Continued on Page 302)

YOUR DOCTOR AND YOU



THIS "See Your Doctor" campaign is of particular importance at the present time, when so many diverse forces are complicating the status of the medical practitioner.

Since the beginning of the series, many physicians have requested copies of these advertisements and we have presented them from time to time in portfolio form. We have recently printed a new edition under the title "Your Doctor and You." The cover bears a photographic illustration designed to interest your patients. The booklet includes the following messages:

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Things I wish my mother hadn't taught me.

Which is the more dangerous age?

This little girl has three parents.

You don't believe in doctors?

Maybe "So-o-o Big" is too big!

The most dangerous thing about appendicitis.
The man who sentenced himself on circumstantial evidence.

He and his father would have been great pals.

Here's something you don't see in the papers.


This is the lady who was afraid of hospitals.

Most of these you may remember. Yet you may desire to scan through them again and then place this portfolio in your reception room. We shall be glad to send you a copy on request.

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versity. Published by the J. B. Lippincott Company, Philadelphia, at \$4.00 per copy.

EMOTIONS AND BODILY CHANGES by Dr. H. Flanners Dunbar, departments of medicine and psychiatry, Columbia University. Published by the Columbia University Press, New York, at \$5.00 per copy.

CLINICAL LABORATORY METHODS AND DIAGNOSIS by Dr. R. B. H. Gradwohl, director of Gradwohl Laboratories. Published by the C. V. Mosby Company, St. Louis, Missouri, at \$8.50 per copy.

MORBIDITY REPORT

New communicable disease cases in the state as compared with last month are reported by the Kansas State Board of Health as follows:

Disease	Month ending June 8	Month ending May 11
Measles	2390	4783
German Measles	641	2638
Mumps	402	623
Whooping cough	252	312
Pneumonia	214	483
Chickenpox	178	310
Scarlet Fever	168	282
Syphilis	139	77
Smallpox	116	84
Gonorrhea	83	45
Tuberculosis	54	58
Pink-eye	29	18
Diphtheria	16	40
Typhoid Fever	14	10
Erysipelas	10	13
Meningitis	8	6
Influenza	6	39
Encephalitis	6	5
Cancer	2	7
Poliomyelitis	1	4
Vincent's angina	1	2
Scabies	0	9
Undulant fever	0	1
Tetanus	0	1

DEATH NOTICES

Dr. McClure W. Cowan, 79 years of age, died at his home in Parsons, on May 19. He had served as a physician in Parsons for thirty-seven years and as a physician in Kansas for fifty-five years. He was born in Pennsylvania in 1856 and moved to Iowa with his parents, later moving to Valley Falls in 1866. He attended the New Mexico Homeopathic School of Medicine and graduated in 1881. He later attended a medical school in Chicago and graduated in 1887. He was a charter member of the Labette County Medical Society and was recently made an honorary member for life. Several years ago the New York Homeopathic School of Medicine awarded him a certificate after fifty years of service in the practice of medicine.

Dr. Garrett A. Van Diest, 61 years of age, died at his home in Prairie View on June 4. He was born in Prairie View in 1874 and after completing his medical training, returned there to take up the practice of

medicine. He was graduated from the Orange City Academy, Orange City, Iowa, in 1892, after which he taught school for two years, then continued his studies. He attended the Hope College, Holland, Michigan, for one year, when he matriculated at Rush Medical College, in 1894. He was graduated from there in 1899 and began his practice at Prairie View. He retired from active practice in 1932 because of failing health. He was ex-president of the Northwest Kansas Medical Society.

Dr. C. L. Appleby, 56 years of age, died on May 29 in the Wesley Hospital, Wichita. He had been a physician in Peabody for over twenty-four years. He was a graduate of the Kansas Medical College, Topeka, in 1907 and a member of the Marion County Medical Society.

COUNTY SOCIETIES

Members of the Brown County Medical Society and Women's Auxiliary were entertained by Dr. and Mrs. R. M. Wyatt at a dinner meeting in Morrill on May 31. Twenty-six doctors and wives were present and following the dinner, the doctors met at the McEwen home where Dr. L. S. Nelson, Salina, gave a talk on "The Management of Cases of Fractured Skull" and Dr. Porter Brown, Salina, gave a paper on "Anaesthetics in Labor." The Auxiliary met at the Wyatt home and Mrs. W. G. Emery and Mrs. Paul Conrad gave reports on the Salina meeting.

Dr. H. L. Snyder, president-elect of the Kansas Medical Society was the honored guest at a dinner meeting of the Cowley County Medical Society held in Winfield on May 23. Included on the program were: Dr. H. H. Jones, Winfield, who gave a report on the meeting of the College of Physicians in Philadelphia; report on the state convention by Dr. H. L. Snyder; a report on specialties, by Dr. H. A. Ferguson, Arkansas City; and a paper on "Varicose Ulcers and Their Treatment," by Dr. C. C. Hawks, Winfield.

The regular meeting of the Crawford County Medical Society was held May 23 with a dinner preceding the program. Dr. Ralph Bowen, Oklahoma City, Oklahoma, was the principal speaker and gave a talk on "The Practical Management of the Asthmatic Child." The address was illustrated with lantern slides.

The Douglas County Medical Society held a meeting June 6 in Lawrence with twenty-four members present. Dr. Bert Nash, of the psychology department of the University of Kansas, spoke on "Mental Hygiene Clinic."

The Edwards County Medical Society held their last meeting for the summer on June 13 in Kinsley.


Following a dinner, members of the Harvey County Medical Society held a meeting in Newton on June 6 with Dr. A. W. McAlester, Kansas City, Missouri, and Dr. A. C. Eitzen, Hillsboro, as the guest speakers. Dr. McAlester gave a paper on "Eye Infections" and Dr. Eitzen talked on "Epidemic Encephalitis."

The Labette County Medical Society held their regular monthly meeting on May 22 in Parsons. Dr. H. E. Marchbanks, Pittsburg, talked on "Heart Diseases," illustrated with slides, and Dr. C. Herbert Smith, Pittsburg, gave a lecture on "Thyroid Complications" and showed two motion pictures.

Dr. V. L. Pauley, Wichita, was the guest speaker at a meeting of the Pratt County Medical Society held

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in Pratt on May 24. Following a banquet Dr. Pauley gave a paper on "Tuberculosis of the Kidney and Affections of the Ureter." Physicians from neighboring towns were guests of the society.

Dr. George E. Milbank was elected president of Sedgwick County Medical Society at the annual business meeting held in Wichita on May 21. Dr. O. W. Fegty was elected vice-president; Dr. F. L. Menehan, secretary; Dr. J. W. Shaw, treasurer, all of Wichita. A series of ten-minute talks by eight Wichita physicians were given on their hobbies.

The Shawnee County Medical Society held their annual party in Topeka on June 6, at the Topeka Country Club. A golf tournament, horse shoe pitching contest, trap shoot, and other sports, comprised the entertainment. Activities started at noon with the golf matches and ended with a dinner.

Members of the Sumner County Medical Society met in Wellington on May 23 for a dinner meeting. Dr. Clifton Hall, Topeka, was the guest speaker and Dr. J. C. Caldwell, Wellington, also gave a talk.

The regular meeting of the Washington County Medical Society was held June 11 in Washington. Dr. J. Harold Lynch, Fairbury, Nebraska, the guest speaker on the program, gave a talk on "Discussion of Diseases in Which Splenectomy Has Been Used" and illustrated with lantern slides and charts.

ANNOUNCEMENTS

The Fourteenth Annual Session of the American College of Physical Therapy will be held in Kansas City, Missouri, September 5-12 inclusive. Further information concerning the convention may be obtained by addressing: American Congress of Physical Therapy, 30 North Michigan Avenue, Chicago, Illinois.

WOMAN'S AUXILIARY

PRESIDENT'S VALEDICTORY 1935

With this, my presidential valedictory, I shall have completed seven years of active official work in the Auxiliary. During that period, county auxiliaries have been borne and some of them have died. Those which have survived have become strong and earnest. While numerically they may not have increased greatly, their purpose has become clearer, their courage greater, their accomplishments more valuable.

Wherever county auxiliaries have persisted, medical work has become more and more friendly; cooperation between doctors and doctors' families more easily aroused and maintained, resulting in more efficient work. Our older auxiliaries have become more community conscious and are making their influence felt in civic and legislative affairs. These things are indicative of growing strength. Nevertheless our chief problem remains organization: the enlistment of new counties, the increase in membership of organized auxiliaries. Until we become numerous we cannot exert the power which organized medicine needs as never before.

Organized medicine in Kansas needs as many thousands of women as she now has hundreds to work for public and medical welfare.

There are about 1500 members of the medical society. There are, perhaps, 700 more eligible for membership. Our Auxiliary has about 200 members, with 1300 or more eligible.

With the positions which doctors' families occupy in society can you not see the great potentialities of our Auxiliary if our membership equaled that of the Medical Society—how much more we could accomplish than even the doctors themselves, if we willed it? Because where a doctor is a member of two organizations his wife affiliate with twice as many. So our great need is first members, then the will to do. Our potentialities are great. Our weakness? Yes, we have weakness. We have members who continue to subordinate the work of the Auxiliary to one or more of their other interests. They do this because they have not learned that their home life itself, whether better or worse, depends on the welfare of the medical profession as a whole. They have a debt to organized medicine, for organized medicine must be credited with having done all for the individual doctor except the small part of his own study and friend making. The individual doctor does not stand alone: whether he knows it or not, he is obligated to the profession as a whole. Therefore, each doctor's family owes a debt to organized medicine. Each doctor's family is affected by whatever affects the profession generally. So, the most important club activity of a doctor's wife should be in the department where her husband's welfare lies. Such an organization—in fact the only organization for such work—is the Woman's Auxiliary to the Medical Society.

I do not wonder that this idea has not penetrated to all the women of doctors' families when we find that there are many doctors, so self-centered that they have failed to heed or study conditions confronting medical practice. There are doctors who do not know anything about the Basic Science bill; there are others who know nothing about the threat of socialized medicine, insurance medicine, weak medical practice laws. These are facts which I have discovered during the past two years.

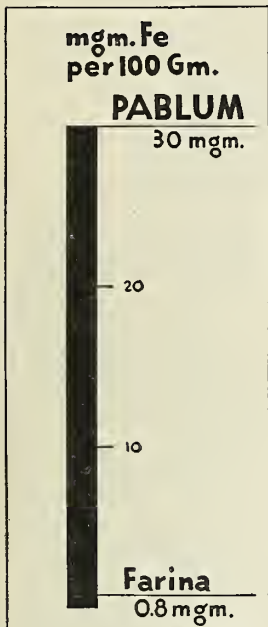
There are threats which are a real menace to organized medicine. The Auxiliary must inform the medical women of the dangers, and cooperate with the Medical Society in applying the remedies—one of which is educating our members in the subject matter of these dangers, so that we may more ably present our cause to the public.

Because of the very real menace before the medical profession and their real very real need of every possible assistance in their fight, there is very active work for the Auxiliary. This is a cogent reason for pressing our organization campaign. We must increase our members, stock our armories with the ammunition called arguments, reorganize our shock troops and infiltrating battalions, which shall respectively assault our enemies and penetrate their lines to the public whose final sympathies or antipathies will decide the battle. We should do this more willingly since we truly believe that the medical profession is more capable of carrying on curative and preventive health work than social workers, un-tutored in medical problems. Our strength lies in our intelligence; our weakness is the average medical woman's hesitancy in applying that intelligence aggressively to medical affairs.

(Continued on Page 306)

For bland diet therapy, especially ULCER cases — PABLUM

FAR too often the bland diet prescribed for gastric ulcer, colitis, and similar gastro-intestinal disorders is a deficient diet. An analysis made by Troutt of ulcer diets used by 6 leading hospitals in different sections of the country showed them to be "well below the Sherman standard of 15 milligrams" in iron and low in the water-soluble vitamins.¹ "Vitamin B would appear to be represented at a maintenance level in most cases," writes Troutt, "but the possible relation of vitamin B to gastro-intestinal functions and appetite should make one pause before accepting a low standard."



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Rich in Vitamin B

The high vitamin B content of Pablum assumes new importance in light of recent laboratory studies showing that avitaminosis B predisposes to certain gastro-intestinal disorders. Apropos of this, Cowgill says, "Gastric ulcer is another disorder which can conceivably be related to vitamin B deficiency. Insofar as the treatment of this condition usually involves a marked restriction of diet the occurrence of at least a moderate shortage of this vitamin is by no means unlikely. Obviously the length of the period of dietary restriction is an important determining factor. Dalldorf and Kellogg (1931) observed in rats subsisting on carefully controlled diets that the incidence of gastric ulcer was greatly increased in vitamin B deficiency. Observations of this type merit serious consideration."³ Sure and Thatcher (1933) produced ulcers in rats, similar to those in human gastric ulcer, as a result of specific vitamin B deficiency.⁴ Clinical observations by Dickson,⁵ Elsom,⁶ Larimore,⁷ and Mackie⁸ lead them to believe that diets low in vitamin B may be conducive to gastro-intestinal disorders, including ulcerative colitis.

Requiring no further cooking, Pablum is especially valuable during the healing stage of ulcer when the patient is back at work but still requires frequent meals. Pablum can be prepared quickly and conveniently at the office or shop simply by adding milk or cream and salt and sugar to taste. Pablum has the added advantage that it can be prepared in many varied ways—in muffins, mush, puddings, junket, etc. Further, Pablum is so thoroughly cooked that its cereal-starch has been shown to be more quickly digested *in vitro* than that of farina, oatmeal, cornmeal, or whole wheat cooked four hours in a double boiler (Ross and Burrill).

Pablum consists of wheatmeal, oatmeal, cornmeal, wheat embryo, alfalfa, yeast, beef bone, iron salt and sodium chloride.

1-8 Bibliography on request.

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Potentially we have the opportunity of greatly increasing our numbers. Our officers are capable of supplying data for the information of our members. If the will to work actively can be aroused, medical women will be powerful. We need the help of the medical societies to bring this about. We may not tell them what is good for them; but those in high places in the medical society may do so. We pray to those doctors to assist us in our expansion, so that we can make their winning easier, more certain.

We have completed our first ten years. We are just finding ourselves. There are symptoms which indicate that our growth and strength will continue more rapidly. There is a stirring within the membership body which, while difficult to describe, is, nevertheless, seen and felt by one in close touch with all parts of the state. To me it presages increased interest, the desire to do more. I take no credit for this apparent arousing. I think it has come from the membership body itself. That is why it is so encouraging. The women are eager to prove their ability as worthy allies of the Medical Society, even women in unorganized territories.

I have had letters in which women have said that they desired to organize, but that doctors discouraged them. Another woman, making a similar reply, said that it was the sporting element among the doctors who demurred.

Is it consistent with the society ethics to send missionaries to such medical organizations? The women will not ask to join their crap games or poker parties. Conceivably they might teach these sports the pleasure of doing something useful.

Were it not for the indifference or opposition of doctors we should have today several more county auxiliaries. The leaders of the State Medical Society are our encouraging friends. We have gained their respect. They are fully awake to the potentialities of our Auxiliary. This, in itself, is no small accomplishment; but we are impatient for more and even greater ones.

The past year has been not barren of accomplishments. Ford county and Pratt county have established auxiliaries with every promise of permanence. Most auxiliaries have had strong social programs and have done much educational and community work.

In legislative work we were enlisted by the Medical Society for the first time, with practically no time for training or preparation. In spite of this the response was gratifying.

The cooperation of all officers and committee chair-

man it is a pleasure to record. To those women and to the entire membership I am grateful.

In yielding my present office I am by no means relinquishing the work of the Auxiliary. It has been in my life so long that it has become a part of me. In some way or other I shall be always striving to further auxiliaries cause.

I know that it will take a long time to accomplish all I want the Auxiliary to accomplish but—well this is the beginning of another decade and I am not only hoping for, but predicting great achievements.

MRS. WILLIAM GORDON EMERY, President
Kansas Medical Auxiliary.

Mrs. J. B. Carter, Wilson, has forwarded a copy of the Constitution and By-Laws of the Woman's Auxiliary to the central office in Topeka where 500 copies are being mimeographed for distribution among members of the Auxiliary.

The Brown County Medical Auxiliary met at the home of Mrs. R. W. Wyatt in Morrill May 31. Mrs. W. G. Emery and Mrs. Paul Conrad reported to members of the Auxiliary on the proceedings of the Salina meeting.

Members of the Sedgwick County Medical Auxiliary entertained with a tea on April 22 in Wichita. A short business meeting was held and members from other Auxiliaries were guests of the Sedgwick ladies.

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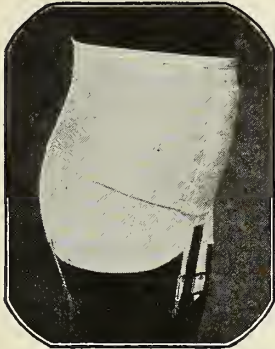
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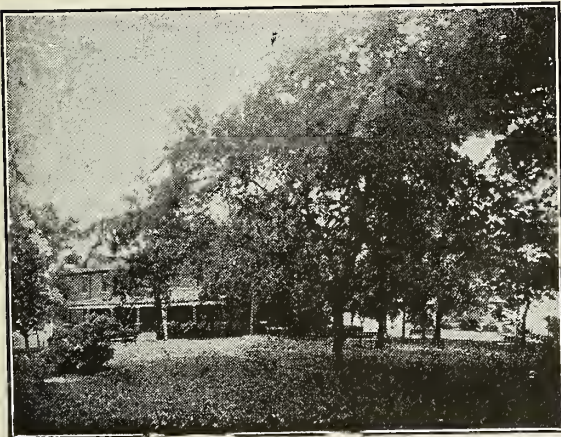
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A CASE OF ADDISON'S DISEASE WITH MINIMAL PIGMENTATION

HENRY N. TIHEN, M.D.

Wichita, Kansas

Since increased pigmentation of the skin and mucous membranes is the most outstanding and most important symptom in the diagnosis of Addison's disease, cases presenting anomalous pigmentation are always of interest from the standpoint of the diagnosis of this condition. Various types of anomalous pigmentation have been described including excessively marked pigmentation, pigmentation with leucoderma, diffuse light yellow pigmentation, mucous membrane pigmentation only, and occasional cases without any increase of pigmentation. The first case of Addison's disease with a total absence of increased pigmentation was described by Gull¹ in 1863. Carter² in 1877 described another case and occasional cases have been described since then. ^{3, 4, 5, 6, 7} Snell and Rountree⁸ report one such case in a series of 100 consecutive cases of Addison's disease. The following case of proven Addison's disease with the increase in pigmentation limited to only one stellate spot on the exposed mucous membrane of the lower lip approaches closely to the cases of total absence of increased pigmentation and is of rare enough occurrence to be of interest.

CASE REPORT

Mr. A. B. G., age thirty, married, collecting and accounting work. The patient first came to the office for an examination on April 10, 1934, stating that his general health had always been good. Scarlet fever at three years of age. No other severe illnesses. He had been an active participant in football and other athletic events in high school and college and had been an athletic coach for five years after finishing his college work, following which he went into

business work. The patient had weighed 180 pounds at his best condition, but three or four years ago had lost fifteen pounds, with no further loss of weight during the past two years. The patient's father had died of chronic tuberculosis. The patient stated that he was feeling very well with the exception of becoming tired a little more easily during the past two years. His reason for examination was to keep check on the condition of his lungs because his father had died of tuberculosis.

No abnormal physical findings were found, the patient appearing to be a very healthy, strong, athletic individual. Weight, 164 pounds; temperature, 98; blood pressure, systolic 116, diastolic 70; urine, normal; hemoglobin, 91 per cent; red count, 5,140,000; white count, 7,450; Wassermann, negative; chest x-ray, normal.

The patient was assured that there was no evidence of tuberculosis and that he was apparently in good health.

Following the above initial examination, the patient was not seen again until he reappeared at the office on July 2, 1934, stating that he had apparently been well until the middle of May, when he began to feel a marked tiredness, loss of appetite, nausea, and a loss of weight amounting to twenty pounds in six weeks. Although still continuing his work, the patient now had the appearance of a rather sick man, being nervous, restless, and definitely weak, with a blood pressure reading of systolic eighty, and diastolic sixty. The following laboratory findings were again determined: Urine, normal; hemoglobin, 85 per cent; red count, 4,500,000; white count, 7,500; temperature, 98; blood urea nitrogen, 24 mgm.; weight, 144½ pounds. Ewald test meal; free HCl 0, total acidity 36.

The patient was sent into the hospital and daily checking of the blood pressure gave systolic readings of seventy-four to ninety and

diastolic readings of sixty-two to sixty-six. There was a rapidly increasing weakness, restlessness, loss of appetite, nausea, vomiting, and slight diarrhoea. The patient subjectively felt better for a few hours after an intravenous saline injection and also felt somewhat better for one or two days after the use of three cc. of eschatin intravenously daily for three successive days.

In view of these findings, a very careful search was made for increased pigmentation. The patient had a natural brunette complexion which had not deepened in color in any way. The patient's wife and other relatives, as well as the patient himself, were questioned very carefully in regard to this and they were positive that there was no change of any kind in the color of the skin. There was also no abnormal pigmentation to be found anywhere on the skin of the entire body. The only abnormal pigmentation of any kind was a stellate brown patch on the exposed mucosa of the lower lip, which the patient had noticed appearing three or four months previously, and which had the appearance of the usual mucous membrane pigmentation of Addison's disease. There was no pigmentation within the mouth.

In view of the increasing weakness, hypotension, and temporary response to intravenous saline and eschatin, the diagnosis of a probable Addison's disease was made and intensive treatment with eschatin was advised. The patient's wife who had control of the situation, however, now decided on Christian Science treatment and took the patient home on July 15. There was no further medical care, although a physician from the patient's company saw the patient twice finding a blood pressure reading of fifty-six systolic on one occasion, and fifty systolic on another occasion. There was a rapid increase in the weakness and restlessness and the patient died August 12. The writer was called again at the time of his death and a post mortem examination was obtained. Careful examination again showed no increased pigmentation except on the lower lip as noted above.

The post mortem examination was performed by Dr. C. A. Hellwig, pathologist to St. Francis Hospital, Wichita, Kansas, to whom I am indebted for the following report:

The anatomic diagnosis as obtained at necropsy was as follows:

Addison's disease, extreme atrophy of both suprarenal glands. Small area of pigmentation on mucosa of lower lip. Slight cardiac atrophy.

Bilateral diffuse hypostatic pulmonary edema. Atrophy of thymus gland. Small pancreas. Ecchymoses in the mucosa of the small and large intestines.

The postmortem observations of particular interest were as follows:

The thyroid gland was of small size, weighing seventeen grams. It had a small colloid cyst in the right lower lobe. The acini were very small, many were collapsed and the colloid was scanty. There was a marked lymphoid infiltration and fibrosis of the intralobular tissue.

No definite thymus elements could be recognized in the anterior mediastinum, even microscopically. The lymph nodes in general were not enlarged except in the perirenal fat tissue.

The right suprarenal was so small that, on first inspection, no trace was found. After formalin fixation, the outlines of the capsule were seen. The whole organ weighed less than one gram. The left suprarenal had a weight of 1.5 grams and was easily distinguished by the dark color of the medulla. Both suprarenal glands were embedded in dense fibrous tissue which also contained several enlarged lymph nodes. (Figure 1)



Fig. 1—Figure 1 is a photograph of the cut surface of the right and left kidneys respectively with the corresponding suprarenal glands. Note the small amount of atrophic suprarenal tissue embedded in fibrous tissue. Also note the enlarged lymph gland at the upper pole of each kidney toward the medial side.

Microscopically both suprarenals showed almost complete loss of the cortical elements and less than half the medullary tissue remained. In large areas, the fibrous capsule lay in direct contact with the medulla, there being no remnant of cortex to be found. In the cortex, foci of dense infiltration with lymphocytes were noticed which in some areas completely replaced it. The normal parallel arrangement of

the cortex cells was entirely lost. The small groups of cortex cells appeared in strands of irregular size and direction. Between these cortical islets were varying numbers of lymphoid cells and connective tissue cells and dense fibrous stroma. The persisting medullary tissue was of typical structure and was characterized by an abundance of chromaffin material. There was some round cell infiltration also in the medullary portion. No evidence of tuberculosis was found.

Thus the essential features of this case were an Addison's disease due to a marked atrophy of the cortex and medulla of both adrenal glands, leading to death with no increased pigmentation except for one stellate patch of pigmentation on the exposed mucosa of the lower lip. There was no increased pigmentation of the skin.

Since increased pigmentation is usually the most important finding in the diagnosis of Addison's disease, its increase in other diseases and conditions such as cirrhosis of the liver, pernicious anemia, itching skin diseases such as pediculosis, pruritis, dermatitis herpetiformis, etc., and in those persons who inherit a tendency to deep pigmentation on an ancestral basis, may lead to a false diagnosis of Addison's disease. It is of interest to know that Addison's disease may be diagnosed in the negro by a deepening of the color of the skin in these individuals.¹⁰ Contrawise, in cases of Addison's disease with minimal or absent pigmentation, the diagnosis becomes difficult and uncertain. By far, the great majority of cases show increased pigmentation of both the skin and mucous membranes. Occasional cases show only increased pigmentation of the mucous membranes and not of the skin. Conybeare and Millis⁹ report two such cases out of twenty-nine cases of Addison's disease. The above reported case must fall into this category since what minimal pigmentation was present was on the mucous membrane only. However, increased pigmentation of the mucous membrane only must always be regarded somewhat critically, as negroes and dark skinned individuals of the white race may normally show pigmentation in the mouth.¹⁰ While the chemistry of pigmentation is still in a theoretical stage, it is the consensus of opinion that the pigmentation in Addison's disease is only a deepening of the normal pigment present and is not a metastatic deposit of pigment. Since pigmentation is one of the three cardinal symptoms of

Addison's disease, its study, as well as that of the other two cardinal symptoms, asthenia and hypotension, is of interest in relation to the pathology present in the disease.

Eighty per cent to ninety per cent of the cases of Addison's disease are caused by bilateral tuberculosis of the suprarenal glands, which process, when sufficiently advanced to produce suprarenal insufficiency, usually involves both the cortex and medulla of both glands. The other ten per cent to twenty per cent of the cases are caused by bilateral atrophy of the glands. Occasional cases have been reported due to bilateral amyloidosis or bilateral neoplasms.

Especially instructive studies have been made on the cases of atrophy and these seem to demonstrate clearly that the essential lesion in the production of Addison's disease is the destruction of the cortex. There are cases on record in which there has been a destruction of the medulla of both suprarenals with an intact cortex—none of these cases have had the symptoms of Addison's disease.¹¹ On the other hand, there have been a number of cases of Addison's disease in which the cortex was found destroyed with a normal or relatively normal medulla. An analysis of Brenner's¹² report of forty-two cases of atrophy is quite instructive. In this group there were twenty-six cases with marked destruction or entire absence of the cortex with a normal or relatively intact medulla. In the other sixteen cases there was an absence or extensive damage to both the cortex and medulla. Wells¹¹ calls attention to these cases of atrophy of the cortex with intact medulla as a natural experimental demonstration that Addison's disease is due essentially to destruction of the cortex and not the medulla. The cases of atrophy seem to be due to a hematogenous toxic agent with a selective affinity for the adrenal cortex cells. Numerous theories as to the nature of this agent have been proposed but we may well agree with Wells in support of Brenner's statement that "the cause is really quite unknown."

From these various studies, as well as others, it is seen that while the destruction of the suprarenal cortex is the essential lesion in Addison's disease, the nature of the underlying pathology very frequently, but not always, causes a simultaneous destruction of the medulla. The present indications are that the two cardinal symptoms, asthenia and pigmentation, as well as the more terminal gastro-intestinal symptoms, are due to cortical insufficiency. It would

seem, as accepted by Kovacs¹³ in his study that the other cardinal symptom, which is usually but not always present, namely hypotension, is due to the destruction of the medulla. In those cases in which the medulla is not destroyed, the patient may die of Addison's disease without the presence of a hypotension. However, it is possible that the hypotension may also be caused completely or in part by cortical insufficiency.¹⁴

CONCLUSION

A certified case of Addison's disease with minimal increase in pigmentation is reported. Attention is called to the fact that the essential lesion in Addison's disease is destruction of the suprarenal cortex.

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FRONTAL SINUSITIS WITH OSTEO-MYELITIS AND FRONTAL LOBE BRAIN ABSCESS FOLLOWING SWIMMING

SAM E. ROBERTS, M.D.*

Kansas City, Missouri

I am reporting these two cases because they both occurred during the extreme heat of the summer of 1934. Both patients did their bathing in unlicensed swimming pools where the bacterial flora of the water is not examined.

A personal conversation with a representative of the Public Health Department of Kan-

sas City revealed that there were no unusual bacterial counts noted during this time. However, attendants at all public pools noted that the pools were more crowded and the bathers remained in the water much longer than in normal years.

While the crowding of the pools may have had a tendency to increase infections, this, no doubt, was offset to a certain extent, by the sterilizing effect of the sun-rays because of so few cloudy days. I believe the length of time the bather remains in the water is the greatest single predisposing cause of infection. One attendant told me many bathers arrived early in the morning remaining until dinner time, having their luncheons on the beach.

CASE REPORT NO. 1

B. H., age fourteen years. The patient was admitted to the University of Kansas Hospital, June 9, 1934. The history revealed that she had been in swimming May 30, 1934, and remained in the water the greater portion of the day. That evening she had a severe nasal hemorrhage and a large blood clot remained in her nose. The following day she had a severe frontal headache which persisted; relieved only temporarily by opiates.

On June 2, three days after the swimming party, swelling developed over both eyes and extended upward to the hair line, backward to the auricle and downward to the upper lip, worse on the right side. A temperature record was not kept regularly but it had been as high as 103 degrees; no chills. The left eye was proptosed downward and outward.

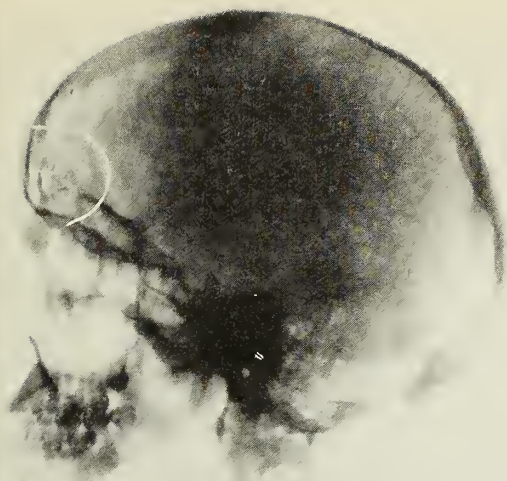
On the day of admittance the sinus x-ray was negative for empyema; only a slight diffuse haziness of all sinuses. Intranasal tissues were engorged but no pus was found. On June 16 a small abscess localized above the inner canthus on the left and was opened by stab incision. June 20 the swelling was gone on the right side but the left eye continued in the position described above.

The x-ray at this time showed an empyema of the right frontal and ethmoid. Pus could be seen in the right middle meatus. Drainage seemed adequate although headaches persisted, requiring opiates.

Osteomyelitis and possible brain abscess were suspected from the beginning but could not be proven radiographically or clinically with any degree of positiveness.

June 26 (see illustration 1 and 2) the pa-

*Professor of Otolaryngology, University of Kansas.



1



2



3



4

ILLUSTRATION NO. 1

Lateral view showing osteomyelitis of frontal bone. Semi-circle extends well beyond involved area.

ILLUSTRATION NO. 2

A. P. Showing osteomyelitic area of frontal bone and clouding of right orbit.

ILLUSTRATION NO. 3

Shows bone actually removed with wide area into healthy bone as a safety margin. Upper tube is in the brain abscess cavity. Lower tube extends through frontal sinus into nose through an enlarged fronto-nasal duct.

ILLUSTRATION NO. 4

Shows position of tubes and bone removed.

tient became much worse; had projectile vomiting; headaches became more severe and there was pain in her abdomen. She had lost ten pounds in weight.

Operation was performed the evening of June 26. A mid-line incision was made from the hair line downward to the level of the eyebrows; a slightly curved horizontal incision through the right eyebrow to the outer margin of the orbit. The periosteum was elevated carefully to preserve as much of it as possible and a triangular flap turned upward and outward. With this large exposure the entire diseased area could be thoroughly inspected.

Osteomyelitic bone could be seen as shown in

the x-ray. The entire external wall of the frontal sinus was removed with an electrically driven burr. The sinus was filled with thick, yellowish-green pus under pressure. The sinus mucosa was thickened and studded with polypoid tissue. The fronto-nasal duct was enlarged so that a twenty F catheter could be dropped easily into the nasal cavity. A scratch was made with a curet around the osteomyelitic area allowing three-fourths of an inch margin into the macroscopically healthy bone. The burr was used to cut the area of the bone down to the dura and the diseased slab was elevated from above downward, and removed.

Free pus was encountered again between the

dura and the inner table. The dura was covered, over an area about the size of a nickel, with a thick grayish granulation. The abscess could be palpated in the frontal lobe of the brain.

The dura was incised and the knife passed directly into the abscess cavity. At least thirty ccs. of pus was expelled. (*Staphylococcus aureus* on culture). A blunt probe was used to explore the cavity which had firm walls and was about the size of a small hen's egg. The tube was placed in the cavity, as shown in Illustrations 3 and 4, and brought outside through a stab in the flap and fixed with a safety pin to the fronto-nasal tube. In closing the wound special attention was given to the approximation of the periosteal flap.

Each post-operative day the brain tube was released and allowed to assume a new depth. At the end of the sixth day brain herniation had completely pushed the tube out. The fronto-nasal tube was allowed to remain in the same position for six weeks to assure a firm ring of cicatricial tissue to prevent closure by bridging and granulations.

The patient made an uneventful recovery and left the hospital at the end of four weeks. A recheck on the patient during January (seven months after admittance) showed no herniation; some depression, which on pressure was firm, showing definitely new bone formation from the dura and periosteum.

CASE REPORT NO. 2

E. J. R., age twenty years. Admitted to the University of Kansas Hospital, July 27, 1934. This patient had been unconscious twelve hours and the right eye was swollen closed.

The history revealed that the present illness began June 30 following swimming and diving June 26. He had been going in swimming frequently and remained in the water three or four hours each time. Frontal pain had been worse on the right with swelling in both eyelids and nasal obstruction. July 17 the patient became much worse requiring morphine daily for frontal pain. He had nausea and vomiting of the projectile type for seventeen days before admission. Involuntary urination and defecation for ten days. He had lost twenty pounds in weight since the beginning of his trouble.

Findings at the time of admittance were: the patient was unconscious, emaciated; had pulse 60, blood pressure 130/60; neck rigid, Kernig positive bilateral; pupils unequal and the right dilated. There was a large amount of pus in the right middle meatus and the nasal tissues were all swollen. See Illustration 5 and 6.

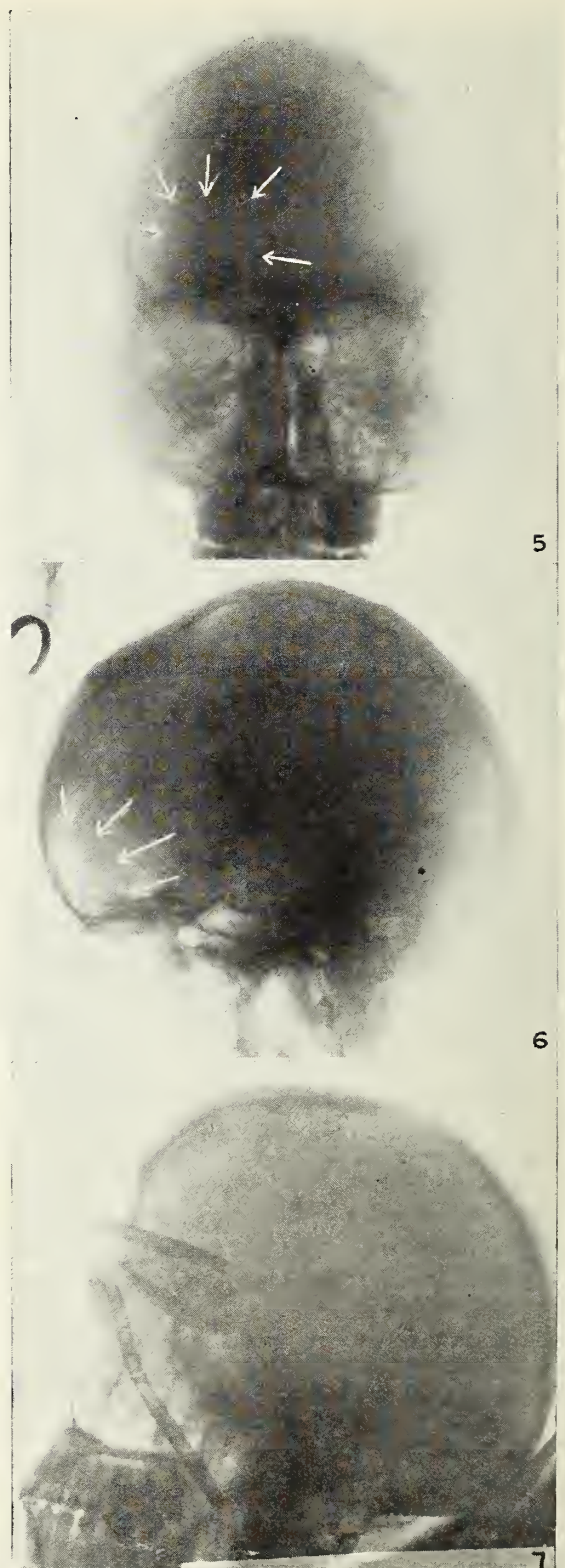


ILLUSTRATION NO. 5

A. P. frontal osteomyelitis, frontal ethmoid and maxillary sinusitis.

ILLUSTRATION NO. 6

Lateral view showing area of osteomyelitic changes in frontal bone.

ILLUSTRATION NO. 7
Lateral view showing position of tubes.

The patient was sent to the operating room three hours after admission and without anesthetic, either local or general, the same operative technique was used as described in Case No. 1. After the operation was completed and while the bone edges were being smoothed off with the burr the patient regained consciousness.

The findings at operation were almost identical with Case No. 1, except a larger abscess was found. (Culture showed staphylococcus aureus). Note the depth of the brain tube in Illustration No. 7.

It required ten days for the tube to be pushed out by brain herniation. This patient is now carrying on his usual occupation. Some herniation exists but he is without symptoms.

GENERAL COMMENTS

The extreme heat of the summer of 1934 did not produce any higher bacterial count in public swimming pools. Overcrowding of the pools would normally account for increased bacterial flora but fewer cloudy days would have compensated for this condition.

Because of the intense heat most swimmers stayed in the water much longer than they would have ordinarily. The nasal mucosa does not react well to being submerged too long in water. Man is a land not a water animal. Hence, in my opinion, the length of time spent by the bathers in the water, is the greatest single factor in the cause of severe nasal and aural infections.

SURGICAL COMMENTS

All of these patients I have seen have had some orbital involvement, at first. When to operate, early or late, is still a debatable question. With both patients the period of illness was practically a month before any bone surgery was done. While both patients recovered others might have been lost during this period by a diffuse meningitis.

In my opinion the time to operate is when the diagnosis of osteomyelitis has been reasonably well established. Had I seen patient No. 2, I would have undoubtedly established drainage from his frontal sinus through the floor, when the external swelling first occurred.

Operative procedure through the ridge in acute frontal sinus infections predisposes, undoubtedly to an extension of the bone infection by disturbing the protective periosteum.

These cases also illustrate the statement fre-

quently made, "The x-ray visualization of osteomyelitis is often four or five days behind the actual invasion."

I am thoroughly in accord with the opinion that a wide margin of macroscopically healthy bone should be removed for it is impossible to determine its limitations either by direct visualization or x-ray. I have seen no bad results from this procedure although it seems heroic while many catastrophes, no doubt, have resulted from timid surgery.

NEURALGIAS AND EAR SYMPTOMS INVOLVED IN GENERAL DIAG- NOSIS DUE TO MANDIBULAR JOINT PATHOLOGY*

JAMES B. COSTEN, M.D.

St. Louis, Missouri

The study of a larger group of these cases exhibiting a pain syndrome and impaired hearing has added various data. Herpes is more certainly one of the irritative phenomena. It appears frequently in the pain group and is almost invariably relieved when the other pain factors are successfully relieved. Classification of the cases has added further proof to the anatomical theory for the production of symptoms. The information supplied by the dentist during the solution of the various problems of malocclusion, coordinates splendidly in completing the evidence of mandibular joint involvement. X-ray study of the joint, when obtained, reveals changes entirely consistent with the clinical history and result after repositioning the jaw. Mandibular joint destruction from malocclusion of natural teeth, artificial teeth, or from loss of teeth, seems to become almost axiomatic. It should hold a strong place in the study of any case of intractable head pain, neuralgia, sinus disease or deafness.

In general physical examination, abnormal conditions of the eyes, sinuses, circulatory system, nervous system, and the gastro-intestinal tract are readily noted; pain from these sources has typical descriptive attributes. Anterior dislocation of the mandibular joint, fracture of the neck of the mandible, or ankylosis of the joint after chronic irritation or infection, command the usual attention as joint problems.

*From the Department of Otolaryngology, Washington University School of Medicine, and the Oscar Johnson Institute. Read before the Kansas Medical Society, Salina, Kansas, May 8, 1935.

This syndrome embracing headache of major importance, neuralgia simulating sinus disease, glossodynia, and deafness, occurs with sufficient frequency to prove its place in diagnosis. Fifty of the seventy cases herewith studied are above forty years of age. Each decade of life results in more wear of the natural teeth, or loss of them with the potential chance of destruction of the mandibular joint.

Various or all of the following symptoms were regularly found associated with these seventy cases of malocclusion.

The ear symptoms were: Impaired hearing, continuously, or with intervals of improvement; stopping, or "stuffy" sensation in ears, marked about meal time; tinnitus, usually "low buzz" in type, less often, a snapping noise while chewing; pain, dull type, within and about ears; dizziness, mild; again, attacks of prostrating severity, with nystagmus, definitely relieved by inflation of eustachian tubes.

The pain or other symptoms were: Headache, severe and constant, localized to vertex and occiput, and behind the ears—typical site of posterior sinus pain, but increasing toward the end of day (atypical sinus history, and suggestive of eye headache); burning sensation in throat, tongue and side of nose; occasional herpes of the external ear canal and buccal mucosa, most marked on the edentulous side.

The diagnosis of this condition was established by:

1. Maloccluding original teeth, lack of molar teeth on one side or badly fitting dental plates, permitting over-closure;
2. Mild catarrhal deafness, improved at once by inflation of eustachian tubes;
3. Dizzy spells, relieved by inflation of tubes;
4. Tenderness to palpation of mandibular joints;
5. Looseness of condyles within the joint capsule, and weaving of condyles from side to side on opening or closing jaw.
6. Marked comfort to patient from interposing a flat object between the jaws.
7. The presence of the typical headache after sinus or eye involvement has been corrected; presence of the typical headache when sinuses or eyes are found to be negative.
8. History of pain attacks after movement of jaw or chewing tough substance.

Case 45. Mrs. E. McM. fifty-two. This case was studied in all departments of the outpatient clinic from September 2, 1933, to Octo-

ber, 1934, giving her a most complete physical examination. When first seen her various complaints included "piles," constipation, and burning of the tongue and mouth so constant and unbearable that she considered suicide. Also she had a regular vertex pain and occasional stopping of the left ear. No dizzy spells.

Examination and study for a period of one month resulted in diagnosis of anxiety neurosis, achlorhydria, constipation, hemorrhoids. On September 29, she obtained temporary relief from stoppage of the left ear by inflation.

She was placed in Barnes Hospital for G. I. study on November 7, 1933, with indeterminate result. In spite of the absence of atrophy or blood changes she was given tentative diagnosis of pernicious anemia. On December 19, 1933, hemorrhoidectomy was performed, recovery good. Examined by the department of otolaryngology at this time, burning of the mouth and tongue was relieved temporarily by cocainization of the lingual nerves in the floor of the mouth; the same application to the nasal ganglia failed to relieve the pain. She was discharged March 7, 1934, with the diagnosis of normal gallbladder, gastric motor insufficiency and indeterminate for other complaints.

On July 22, 1934, she was examined in the department of otolaryngology with reference to the mandibular joint syndrome.⁶ It was found that all symptoms had been present before having her dentures two years before, growing worse after. Some relief had been obtained at times by holding the mouth wide open with her hands. She described the burning to occur throughout both sides of the mouth and over the tongue. It was constant and interrupted her sleep, in spite of all sedative drugs. It was aggravated by talking and grew worse toward the end of the day, causing her to "dread the approach of night." Examination showed the left eustachian tube stopped but easily inflated. Both mandibular joints were extremely tender, and gave a snapping noise on closure of the month. The condyles were unusually loose within the joint capsule and would weave from side to side on opening or closing. Small corks were inserted between the jaws and definite relief from burning was noted at the end of fifteen minutes.

New dentures were secured, increasing the vertical dimension of the jaw fourteen mm. These were built in stages extending over a period of five weeks.

At the end of September, 1934, she reported,

completely relieved of all burning of the mouth and tongue, vertex pain and stoppage of the ear.

Twelve of the cases in this series presented the trying condition of sensory disturbances about the pharyngeal wall, or the complaint of burning tongue. Five of these are known to have proceeded with the advised repositioning of the jaws and each has been completely relieved. The above case (number 45) represents the most aggravated type with complete disability because of it. She was the most thoroughly studied case in the entire group from the standpoint of clinical observation.

Glossodynia, or burning tongue with or without herpetic lesion has been described by Butlin,¹ Engman,² Dean,³ Sluder,⁴ and numerous others, especially in the literature of dermatology. Frequent reference is made to the complaint in cases of pernicious anemia, glossopharyngeal neuralgia and gastric diseases. Dean,³ and later Sluder,⁵ found that some of the cases could be relieved by injection of the nasal ganglion.

The most common symptom observed was headache or head pain of a type such as enters into so many problems of diagnosis. Forty cases had regular daily headache, more or less severe, twenty-nine of which described the pain as vertex, occipital and about the ears. Ten had only supraorbital pain. All of these came or were referred for study as sinus cases. Almost

all showed more or less sinus infection and had proper treatment. Eleven volunteered the description of pain as increasing toward the end of day. This was typical of eye strain headache and no eye lesions found. The distribution of pain was quite typical of posterior sinus disease.

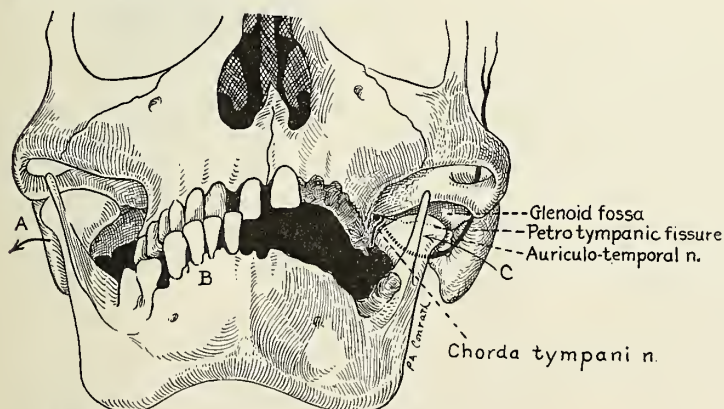
In a previous report⁶ anatomic reasons were advanced for the pain, i.e.: Erosion of the bone of the glenoid or mandibular fossa, and impaction of the condyles against the thin bone separating them from the dura and its rich nerve supply; (2) irritation by the uncontrolled movement of the condyles backward or mesially, of the auriculotemporal nerve, which passes intimate to the mesial side of the capsule between the condyle and the tympanic plate to distribute over the temporal and vertex region; (3) production of reflex pain and sensory disturbance in the various connections of the chorda-tympani nerve, the condyle irritating it where it emerges from the tympanic plate at the mesial edge of the glenoid fossa, through the petrotympanic fissure.

Reasoning from the fact that the mandibular joint capsule is weaker on the mesial side, and the glenoid fossa is protected laterally by the zygoma, it was assumed that in the jaw with unilateral loss of teeth the joint on the unsupported side would suffer most destruction. Observation of the jaw movements of this type of case showed that the patient attempts to oc-

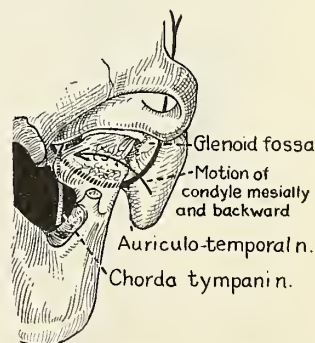
A. Relaxed ligament of mandibular joint permits play of condyle downward.

B. Remaining tooth support holds, or lower teeth shift laterally during closure.

C. Condyle on edentulous side shifts mesially, irritating auriculo-temporal and chorda tympani nerves.



Effect on mandibular joint of lack of molar support on one side.



Detail of condyle movement on affected side.

Fig. 1. The manner in which the condyle impacts the auriculo-temporal and chorda tympani nerves is exactly the same when the natural teeth are worn, or badly occluding. The side on which pain is produced, varies, however, according to the side used for chewing, or to the position at which the mal-occluding teeth come to rest. (From the Journal of the Missouri State Medical Association, May, 1935.)

clude the remaining teeth by weaving the jaw laterally toward them. The lower teeth slip beyond the upper on occlusion and the condyle on the unsupported side is pulled mesially and upward by the chewing muscles. Exactly the same thing happens when the natural teeth are worn or badly occluding and fail to take the impact of the chewing movement. The joint on the poorly supported side is destroyed. Its condyle slips mesially on closure (Fig. 1) impacts the nerves and initiates pain on the same side. Twelve cases fall into this group and the various pains invariably occur on the side in which proper molar support is entirely lost. The joint on the same side is usually quite tender to palpation internally, and functions with a crunch when palpated externally. Ear symptoms, as stopping and deafness, are notably absent in these unilateral neuralgia cases. Each case showing stoppage of the ear or dizziness was at once relieved.

The same twelve cases, i.e. with unilateral joint destruction, described pain and sensory disturbances about the lateral pharyngeal wall

and tongue. Five of these were simply intractable burning of the tongue. In a previous report⁶ the emergence of the chorda tympani nerve at the mesial edge of the mandibular fossa was suggested to account for sensory disturbance in the tongue, when irritated by the loose movement of the condyle mesially. Irritation of the auriculo-temporal nerve, as described, may produce pain in the remaining branches of the mandibular nerve, one of the largest of which is the lingual nerve, supplying sensation to the anterior two-thirds of the tongue. The afferent fibers represented by the chorda tympani nerve are actually the sensory part of the facial nerve and end, in part, in the same nucleus as does the ninth, or glossopharyngeal nerve. These fibers are considered (Piersol⁷) "as an aberrant strand of the glossopharyngeal." Under other circumstances of study these cases may have been regarded as glossopharyngeal neuralgia; the description of glossopharyngeal neuralgia usually is that it is a paroxysmal pain referred to the region of the fauces and lateral wall of the pharynx, often radiating up

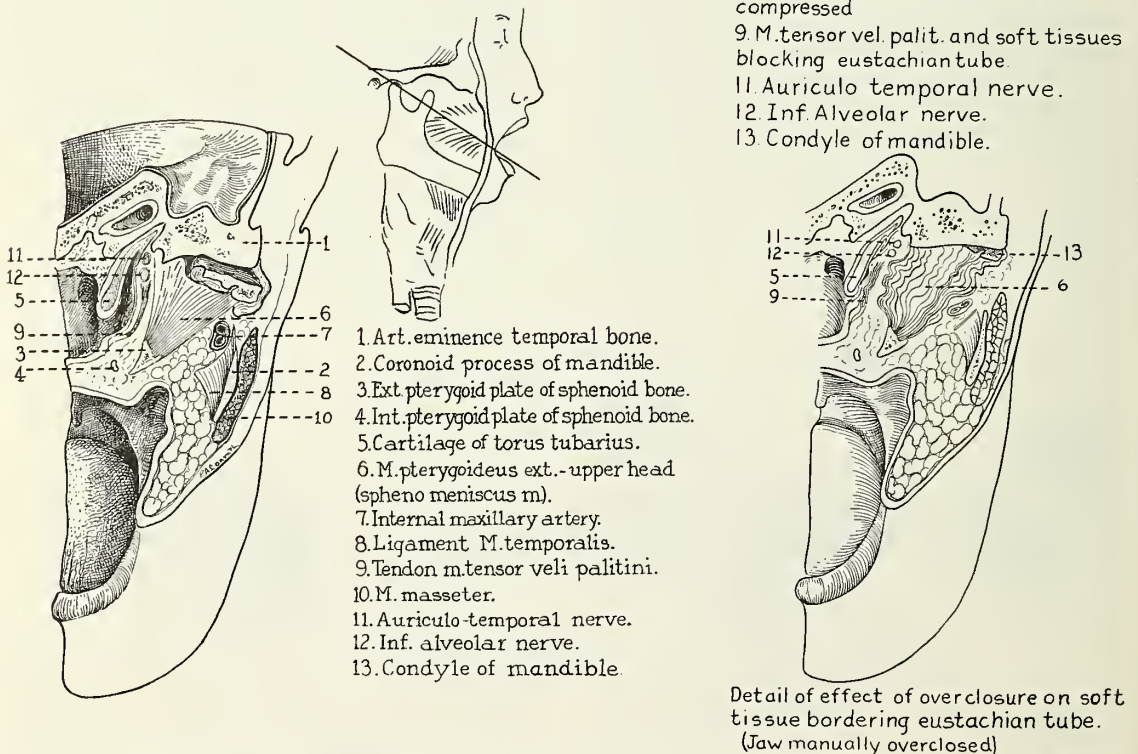


Fig 2: The section was made in a cadaver specimen with the mouth open, on the line shown in figure. It passes through the entire pharyngeal part of the eustachian tube, and through the condyle as it rests on the articular eminence. When the jaw is overclosed the condyle disappears upward and backward into the glenoid fossa. The anterior, or membranous part of the eustachian tube is compressed by bulging tissues, and the function of the tensor veli palatini muscle (of opening the tube), is lost. (From the Annals of Otol. Rhinol. & Laryngol. March, 1934.)

to the ear on the affected side; case reports state that the trigger which starts the pain is the act of swallowing. With mouth closed, as in swallowing, the mechanism for irritating both the chorda tympani and auriculo temporal nerves by the condyle is ideal and likely. The evidence is more and more convincing that malocclusion and destruction of the mandibular joint is important in the etiology of glosso-pharyngeal neuralgia. It is at least quite clear from the five cases of burning tongue completely relieved by repositioning the jaw, that this is the principal etiological factor of glossodynia of peripheral nerve origin.

Although herpes has long been established as a toxic disease of the ganglia of the posterior nerve roots, associated with a vesicular inflammation of the skin of the corresponding areas, a mild type is found associated with these cases, not occurring in the presence of acute infections. There were sixteen in the series, all in the pain group, who described vesicular eruption about the external canals, the corners of the mouth, the hard palate or the buccal mucosa. Nine of these were relieved along with the other complaints. To date the remaining seven have not been followed up. Hunt⁸ has pointed out a characteristic symptom complex, of deep seated pain in the ear and mastoid, herpes of the auricle, external auditory canal, and tonsillar region and facial paralysis, in connection with inflammation of the geniculate ganglion. He described certain cases with herpetic lesions about the external auditory canal, and with pain symptoms, but without facial palsy. He classed these as of the type of zoster of the auricle, long before termed idiopathic; these were accounted for by earlier observers favoring the neuritic theory of herpes zoster, by ascribing the skin lesions on the auricle to a neuritis of the auriculo-temporal branch of the fifth nerve. The favorable reaction of the herpes group of this series to repositioning of the jaw is proof that their source is pressure irritation of the auriculo-temporal and chorda tympani nerves by uncontrolled movements of the condyle, and transmitted to the ganglia. It would explain the idiopathic group referred to in Hunt's series, as well as the sixteen cases referred to above.

X-ray study, plating the joint on closure shows the condyle impacted upward and backward, but so far cannot demonstrate the position of the condyle shoved mesially. Erosion of the head of the condyle and articular eminence may be seen. In one excellent case a frag-

ment of the tympanic plate is broken away and clearly shown, with a history of injury on that side. However the neuralgia and destruction of the joint shown in the x-ray occurs on the opposite side where the molar support has been lost.

A few of the neuralgia cases complained of tinnitus of a mild grade, but the majority of the ear symptoms seem to be referable to simple overbite or overclosure of the jaw. Twenty-eight of the series presented ear symptoms. Twenty of these were edentulous, or had natural teeth allowing wide overbite. Nineteen of the twenty-eight ear cases had headache in addition to deafness, tinnitus, or dizziness. So it would seem that headache and the pain effects appear more common by a large majority than ear involvement.

The ear involvement was usually found to be mild, and the result of compression of the eustachian tubes; dizziness disappeared with the inflation of the eustachian tubes and this was considered an important test in the diagnosis. Deductions as to the behavior of the tissues bordering the tube during overclosure of the jaw were made⁶ by experimental overclosure of the jaw of a soft tissue specimen. When this is done manually (to imitate similar overclosure in life), the tensor veli palatini muscle bordering the membranous anterior edge of the tube, and the adjacent sphenomeniscus muscle, are seen to wrinkle, and crowd the eustachian tube, closing it firmly. During the act of swallowing the tensor palatini muscle should be tensed, and effect a temporary opening of the tube. This function cannot occur during overclosure, and the result is derangement of intra-tympanic pressure, and dizziness. Continued production of the tube effects brings about a catarrhal or adhesive deafness exactly as produced by inflammation or pressure from the naso-pharynx. The catarrhal deafness improves more or less after re-positioning the jaw. The grade of improvement seems to depend simply upon the degree of structural involvement. Follow-up has been possible in only sixteen of the twenty-eight ear cases, and twelve of these were improved in hearing or entirely relieved of dizziness.

The remaining four cases were not improved by repositioning the jaw and were classified at first as VIII nerve deafness, because of a shortened bone conduction. An interesting observation has recently been made by Guild⁹ which may explain this. In temporal bone sections

from patients with disproportionate shortening of the bone conduction, he found micro-fractures of regions of the otic capsule, and of the osseous trabeculae between external auditory canal wall, and horizontal canal prominence. These were described as healed by fibrous instead of osseous union, indicating that physiological forces were affecting the region enough to cause bending of the temporal bone. He points out that the high incidence of micro-fractures in older people is in general agreement with the age incidence of major dental pathology and stress on the temporal bone during mastication. Although the number of cases fitting this description is a small percentage of the total number of ear cases with malocclusion, it again raises the important question of the possibility of deafness in some of these cases being the result of trauma from the condyle.

SUMMARY

Review of a larger group of cases in which headache and ear symptoms were shown to be dependent upon disturbed function of the mandibular joint indicates the frequency of this factor. The descriptions of pain and ear involvement are similar in every respect to some commonly known eye, sinus and ear disorders.

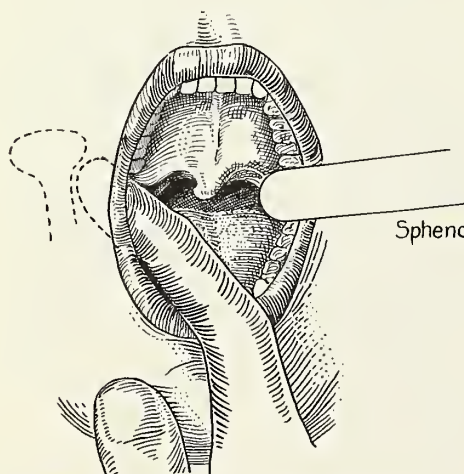
Fifty-five of the seventy cases fall in the pain group, sixteen of which had ear symptoms. There were thirty-one showing ear damage attributable to effects on the eustachian tube—thirteen of these without loss of hearing. The

remaining eighteen had varying grades of catarrhal deafness, due either to compression from overclosure, or to chronic nasal infection. Four of the ear cases had shortened bone conduction and were not improved by repositioning the jaw; these may be regarded either as VIII nerve deafness, or as examples of micro-fractures of regions near the otic capsule interfering with transmission of sound waves to the inner ear, as observed by Guild. The fact that all four were over forty and had destruction of the mandibular joints supports to some extent his theory that the micro-fractures are due to abnormal jaw closing force imposed on the temporo-mandibular articulation.

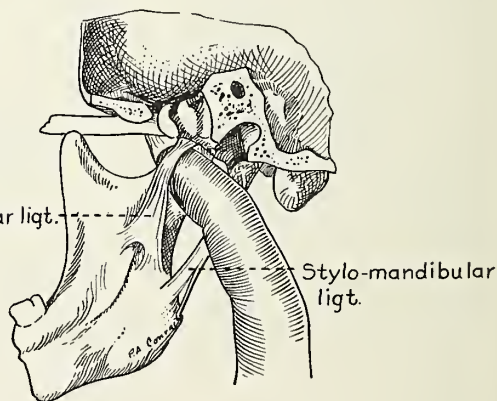
The correction of the jaws and replacement of dentures was done by various dentists, within the patients acquaintance. The results were generally good except in the few cases of malocclusion of natural teeth presenting great difficulty. However it was noted that the cases showing the best result were corrected in several stages, slowly increasing the vertical dimension of the jaw.

Sixteen of the seventy cases demonstrate a type of mild herpes occurring regularly at the time of the more severe attacks of pain, and improving with the disappearance of the other symptoms. Herpes should be regarded as an irritative symptom in connection with the typical joint case.

The complete relief of five cases of burning tongue is important evidence that the cases of



The manner of palpating mandibular joint internally.



Structures encountered by examining finger.

Fig. 3. With the patient holding the breath on inspiration to eliminate the gag reflex, the examining finger is pressed upward and outward, between the uvula and tonsil. As the soft palate is compressed, the finger meets first the resistance of the internal and external pterygoid muscles, then the taut spheno-mandibular ligament, before touching the round mass of the condyle and joint structures.

glossodynia without local lesion on the tongue and pharynx, are due to irritation from the uncontrolled movement of the condyle. It compresses and irritates both the auriculo-temporal nerve and chorda tympani nerve, both of which have close reflex association with the lingual branch of the Vth nerve; the chorda tympani spreads about the anterior two-thirds of the tongue for its own distribution. Both chorda tympani and auriculo-temporal nerves have sensory connection with the glossopharyngeal nerve by way of sensory branches to the otic ganglion.

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RADIUM TREATMENT FOR CANCER OF THE CERVIX*

PALMER FINDLEY, M.D.

Omaha, Nebraska

I speak from the standpoint of a gynecologist who has added radium to his armamentarium in the belief that it is of the utmost value in the treatment of a certain group of pelvic disorders. In my personal experience it has obviated the necessity for surgical intervention in perhaps ten per cent of all gynecological cases; it has provided a way out with less risk to life, less suffering, less loss of time and less expense to the patient—its greatest triumph is in the treatment of cancer of the cervix.

The Fellows of the American College of Surgeons need not be reminded of the manifold problems involved in the application of radium to cancer of the cervix. If radium were only in the hands of men who are expert in its application, who have an understanding of the physics of irradiation therapy, who are capable

of determining the extent of the invasion and who are mindful of the many pitfalls that beset workers in the field of irradiation therapy it would be but "carrying coal to Newcastle" to inject the subject into our deliberations.

But radium, like surgery, is too often employed by the inexperienced and with results that are equally disastrous. Zweifel tells us that proficiency is more difficult to achieve in radium therapy than in surgery and yet radium is available to any physician who will pay the rent. I quote from a circular recently received: "Think of the advantage you would enjoy by having the counsel and cooperation of a group of radium therapists when you have occasion to consider treatment for a malignant case—the value of having radium emanation specially prepared for each case, so that its application could be carried out according to methods developed and sponsored by the world's ablest radium therapists—methods which you yourself can safely employ." So simple and reassuring is this appeal one cannot doubt it will attract the unwary.

Only the experienced radiologist can fully appreciate the technical difficulties involved in the application of radium; he alone is aware of its limitations and has learned from experience that unlooked for complications are bound to arise. Many factors, some of them unknown and unforeseen, contribute to his results and make for uncertainty. The amount of energy applied to a given group of cells does not accurately determine the destructive effects upon the cells and there is a wide variation in the tissue resistance to radium; all of which introduce an element of uncertainty in every case. If this be true how great must be the disappointments when radium is used in a haphazard manner.

The mortality chargeable to radium therapy in cancer of the cervix is one to three per cent in the hands of experts and to this we must add certain crippling sequelae which cannot always be avoided. What the results are the world over no one knows but it is safe to infer that the percentages of unfortunate results are much higher.

It is generally conceded that surgery has reached the limit of its efficiency in the eradication of cancer of the cervix and that irradiation therapy seemingly has little more to offer. Both surgery and irradiation therapy have accomplished much but not enough. A five year cure of twenty to twenty-five per cent of all

*Read before the American College of Surgeons, Kansas City, March 13, 1935.

cases, a fifty per cent five year cure of all group I and II cases, and seven to ten per cent five year cures of all inoperable cases are the limits beyond which we have not been able to go. We are not satisfied with this showing and for want of more effective means of control we stress the need for earlier recognition of malignant growths and for preventive measures.

Early repair of the injured cervix and cauterization of the cervix in the presence of endocervicitis are preventive measures which will contribute largely to the betterment of results. Obstetricians and gynecologists know this but I fear the general practitioners who are doing the bulk of the obstetrics are not sufficiently impressed with the importance of these prophylactic measures. I venture the statement that seventy-five to ninety per cent of all cancers of the cervix could be prevented if all lacerations of the cervix were repaired in the puerperium and inflammatory lesions of the cervix were recognized early and properly treated.

Failure to effect a cure is not always due to the advanced stages of the disease when first seen. Under-irradiation is responsible for a portion of these disappointments in which insufficient radiation is applied, with the result that normal tissues become sensitized and the cancer cells become radio-resistant. This spells failure. Says Robert Greenough: "The surgeon may err in doing too much on the advanced cases and too little on the early and favorable cases." "It is impossible," says Bowing, "to select patients who are decidedly sensitive in reaction from those in whom the response seems sluggish or retarded." This is but another way of saying—we cannot hope to escape disappointments and avoid complications in all cases—we have not yet emerged from the empirical stage of irradiation therapy. A recurrence of the growth at the seat of irradiation is evidence per se of under-irradiation.

It is not my purpose to discuss the marvelous achievements of radium therapy; this has been done over and over again and we can all agree that radium is the remedy par excellence in the treatment of cancer of the cervix. But radium, like surgery, has its limitations and its hazards which I propose to briefly recount.

Experience has taught us that under nourished, anemic, cachectic individuals react poorly to irradiation; the initial symptoms are distressing and the mortality is increased. When the element of infection is superimposed upon a low body resistance the risks are measurably

increased. A period of preparation for such cases is imperative; rest, nourishing diet and if need be the transfusion of blood are all indispensable. Massive doses under such conditions are dangerous. The need is for deliberation and caution in the management of such advanced cases if we are to avoid irreparable damage. For my part I much prefer to apply a preliminary high voltage pelvic roentgen-ray cycle in advanced cases before resorting to radium. With the judicious application of the x-rays the infected cancer mass becomes more circumscribed and less virulent, thereby providing a more favorable field for the application of radium.

We may be reasonably assured of the destruction of the primary growth within the confines of the cervix but the pressing problem lies in the effective irradiation of the extended growth in the pelvis and here we rely upon external irradiation. The incomparable results of Professor Regaud in the Radium Institute of Paris show a net gain of ten to twelve per cent over all other reported cases through long continued, small doses of roentgen irradiation in combination with radium.

Roentgenologists are increasing the skin dosage by applying multiple small dosages of roentgen rays in the effort to reach the deep pelvic tissues. By so doing they are able to give much greater R units than could safely be given in a single treatment. Upon this method is based the hope of raising the percentage of cures in advanced cases.

Infection is responsible for more deaths in radium therapy than all other factors combined. Undoubtedly the infection is occasionally introduced in the operation but it is the unrecognized and disregarded infections in the cancer mass and in the pelvic structures that must be reckoned with—pyometra, pelvic cellulitis and salpingitis are definite contra-indications to radium therapy.

Every means should be employed to lessen the virulence of these infections before reverting to radium. Antiseptic douchings are all very well for cleanliness but they fall far short of ridding the tissues of infection. It is here that the x-rays are of the utmost value in preparing the tissues for subsequent radium irradiation. In the hands of experienced radiologists the mortality from infection following radium irradiation is 0.05 to 2 per cent. It is encouraging to observe in the reports from radium clinics that the incidents of infection are being progressively lowered, due principally to the application of

roentgen rays, to greater caution in using massive doses of radium in advanced cases and to less haste in submitting these cases to irradiation.

To apply radium in amounts sufficient to destroy all cancer without doing damage to normal structures requires a nicety of technique that only the experienced possess. The application of massive doses with inadequate screening and reirradiation are the factors responsible for such complications. All who pursue a persistent follow-up program have been rewarded by an occasional permanent cure in event of recurrence of the malignant growth; it is a well founded practice but it requires the utmost caution lest necrosis of normal tissues ensue. Interstitial irradiation in massive doses and particularly where the tissues are infected is the surest means of producing sloughing which leads to fistula formation. Here again we would emphasize the value of the preliminary high voltage x-ray cycle to diminish the size of the growth and to eliminate infection before resorting to radium irradiation. The amount of radium element, the time of exposure and the selection and distribution of proper containers are important factors in safeguarding the normal structures, as is the use of the retention catheter, the packing of the vagina and the emptying of the lower bowel.

We are concerned with another group of complications and sequelae which make their appearance in the urinary tract, the lower bowel and the parametrium months and even years after the application of massive doses of radium. They give rise to distressing symptoms which are too often interpreted as the expression of recurrent malignancy. Such an assumption too often calls for the application of more radium which only serves to aggravate existing conditions. I am here referring to pyometra resulting from a cicatricial constriction of the cervical canal, to the development of scar tissue within the parametrium which causes persistent pain; to partial or complete obstruction of the ureter leading to hydronephrosis, pyonephrosis and pyelitis; to ulcerations and cicatrization within the bladder and lower bowel. Time will not permit of a discussion of these lesions. To recall them will serve to emphasize the dangers of over-irradiation.

In this brief discussion of radium therapy I have stressed the disappointments and complications which are familiar to every worker in the field of irradiation therapy. I have ex-

pressed the belief that our reliance should not be placed on radium alone but rather upon a combination of the roentgen rays and radium. The scientific application of this technic promises to advance the percentage of curability a notch higher, which is perhaps all we may ever attain from irradiation therapy.

In making this dogmatic statement I am fully aware of my limitations in the realm of prophecy; recalling the words of Ambroise Paré who, in the sixteenth century, expressed the conviction that he had left little undone in the field of surgery. He had labored more than forty years to bring surgery to perfection. "And in this labour," said he, "I have striven so hard to attain my end, that the ancients have not wherein to excel us, save the discovery of first principles; and posterity will not be able to surpass us (be it said without malice or offense) save by additions, such as are easily made to things already discovered."

ANAPHYLACTIC SHOCK FROM THE USE OF PITUITRIN IN AN OBSTETRIC CASE

FRANKLIN W. KOONS, M.D.

Halstead, Kansas

On May twenty-fifth nineteen thirty-four I was called on to deliver Mrs. B. N., aged twenty-nine and para six. She had had no prenatal care and was in squalid circumstances. With two student nurses I arrived on the scene at about three o'clock in the afternoon and learned that she had been having irregular pains for three days and that the pains had been regular and stronger since noon. Rectal examination revealed that the patient was in the second stage, with a vertex presentation and occiput anterior position. The fetal heart could not be heard, and as the patient could not recall having felt any movement of the fetus during the past forty-eight hours, the opinion was expressed that the baby probably was dead.

The pains were of fair strength and at about three minute intervals. It was soon observed that something was wrong; the pulse was increasing in frequency, and the patient was restless and yawning. After preparation, a vaginal examination was made, dilatation was complete, the head well engaged, the membranes unruptured and there was no apparent disparity between the passage and passenger. The

membranes felt boggy though not suggesting a placenta praevia. During the next pain the membranes ruptured and a great amount of dark reddish fluid and some dark blood-clots were expelled. Further examination revealed the absence of a placenta praevia. The patient's condition was not improving, the pulse having reached one hundred twenty-five. There was no further escape of blood or clots, the head apparently having blocked their escape.

Believing I had, at least, a partial separation of the placenta, and probably a dead baby, I deemed it inadvisable in the surroundings to attempt delivery by means of forceps or version. Instead I gave one-half cc. of pituitrin intramuscularly. The effect was prompt and in about fifteen or twenty minutes the baby was expelled, followed by about one thousand cc's of dark, clotted blood and a sharp fresh hemorrhage. The baby appeared to be dead. There was no pulsation in the cord, and while clamping and cutting it, the scrub nurse was directed to make pressure over the uterus while I tried to resuscitate the baby. It was inverted and quite a quantity of blood-stained fluid escaped from its nose and mouth. It made several respiratory attempts and then cried out once whereupon it was turned over to the other nurse for further attention.

Immediately after the birth of the baby the nurse gave the remaining half cc. of pituitrin, which is our custom, though at the time I did not know that it had been given.

During the time that I was giving first attention to the baby, I noticed several large bluish elevated blotches on the inner surfaces of the mother's thighs, but their significance did not register with me, as at that time the nurse with the baby announced that it had ceased breathing. Leaving the nurse in charge of the mother I went to the baby which appeared to be dead. However, examination revealed a feeble heart action, and after immersion in warm water, adrenalin intracardially, and mouth to mouth insufflation, it revived.

The above all transpired in a few minutes and when I returned to the mother (the nurse having reported the delivery of the placenta, no bleeding and the uterus firm) I was horrified at her appearance. The features were swollen beyond recognition, the tongue protruded from the mouth, respiration was feeble and obstructed; she was cold, clammy and unconscious. Her entire body was covered with a purplish urticarial rash. The radial pulse

could not be felt, though with the stethoscope the heart action was found to be about one hundred sixty to one hundred seventy. Believing I had an anaphylactic shock from the pituitrin, I gave twenty minims of adrenalin subcutaneously at two sites and massaged them vigorously for a few seconds. After some fifteen or twenty minutes, the pulse became stronger and less frequent, the swelling gradually subsided, breathing became deeper and less obstructed, consciousness returned and the patient began to complain of an intense itching over the entire body. All the symptoms gradually improved so that when I left the house at about six o'clock that evening the acute stage had fairly cleared up, and when seen again at nine o'clock the patient did not show any evidence of her experience except a weakness that could be attributed to the loss of blood. The baby survived and was doing well when last heard from.

Cases of this nature appear to be quite rare and due to their suddenness and severity should be reported.

Dr. P. W. Wang, and Dr. J. Preston Maxwell, in the Chinese Medical Journal, 1933, No. xlvii, 66-68, state that protein shock from the administration of pituitrin is extremely rare but is alarming when it does occur.

In their case one cc. of pituitrin was given immediately after the expulsion of the placenta. In about five minutes the patient began to complain of dizziness and numbness of the tongue and hands. Soon intense itching over the body followed and she became semiconscious. In about forty minutes the mental state began to slowly clear but the pulse became almost imperceptible and the blood pressure fell to fifty systolic. Throughout the attack there was a generalized erythematous rash with much perspiration. The patient was dusky and breathing was obstructed. She was given digitalis hypodermically, 1 cc. and 500 cc. of normal saline intravenously; after about two hours the blood pressure had risen to eighty systolic and after twenty-four hours the mental state, pulse and blood pressure had returned to normal.

This patient had a similar experience in 1931 under the same conditions, was given saline solution by vein and inhalations of oxygen and recovered in twenty-four hours. On this occasion the cause of the trouble was not suspected, but after the second time the pituitrin was suspected as a possibility and a

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PRESIDENT'S PAGE

MEDICAL ECONOMICS

To the Members of the Kansas Medical Society:

A man who ventures into the business world must have some sort of capital, whether large or small, by which he may gain an entrance; and a physician is no exception to the rule for his profession is his business, and he has his capital though it be not represented in dollars and cents.

His education and training are his initial capital with which he embarks upon his professional career, and, as in other businesses, if he progresses he acquires more capital in the way of office, laboratory equipment, scientific instruments, library, automobile, etc. However, his initial capital, his education and training which are such a vital part of his being, cannot be bought, sold or exchanged in any market, and it cannot be used by anyone but himself; and unlike industrial capital, cannot compel the labor of others.

Capital in medicine performs an entirely different function from that of industrial capital, and the amount invested in equipment does not increase the demand for medical service; neither is the physician's income appreciably increased. His knowledge, skill and other personal attributes are his real income producing possessions. His office and professional equipment partake of his personal character, but are of small value when separated from his personality.

The medical profession at large has a capital also, and it is preserved in publications, in minds and in traditions, and it is transmitted to the individual physician through universities, clinics, journals and by precept. The profession is the owner and keeper of this priceless capital, and it is its duty to guard, preserve and increase it. Organized medical societies are the custodians of this knowledge, and this is one of the special reasons why societies in every county should exercise control over every form of medical care.

Economic writers who have considered professional incomes have tried to classify physicians under labor and their incomes as wages; others substitute "Patients" for "employers," "physicians" for "laborers" or "employees" and medical service for "unit of" labor. But

no matter how these economists classify physicians, their theories have not helped to solve our professional problems or increase our incomes.

In the marketing of medical services the credit and collection features are very different from those in the marketing of commodities. Credit for medical services is granted under different conditions than those in most other business transactions. A business loan is usually extended because the borrower has increased or has prospects of increasing his assets.

But medical service is generally given at a time when earning power has decreased and other expenses have increased; also, the debt is contracted to meet an emergency which has vanished when the time comes for payment. Money relations between the physician and patient are more elastic than in the majority of commercial transactions and the risk is greater than in any other field, as shown by statistics. The contrasts between the medical market and the commodity market are very distinct. Whereas industry is ever seeking new markets and expanding existing ones by creating greater demands, the medical profession expends its greatest energy in the destruction of its markets, and is most zealous in its search for ways to eliminate disease.

Who does not recognize the glorious triumphs of the medical profession in the abolition or lessening of such diseases as yellow fever, smallpox, diphtheria, typhoid fever and other plagues that once were the scourge of mankind? But on the other hand how many ever stop to think that the destruction of the epidemic character of these diseases with their need of extensive medical service has also destroyed a large part of the medical market. Medicine has given scientific discoveries too numerous to mention, and doctors have frequently risked their lives for the advancement of science and to save lives.

Almost every advance in the field of preventive medicine is due to the research and sacrifice of the medical profession and its allied sciences, yet the nature of the measures necessary to control disease has changed the character of the service. Sanitation, quarantine and many forms of immunization require the co-operation of those not yet sick, of government and extensive social organizations.

So it has come to pass that health departments and other lay organizations have invaded the physician's field. Then they have

censured him for not accepting their instructions and control, not only to his own economic disadvantage, but sometimes to what he knows has been destructive to the very purpose of prevention of disease.

Physicians must give their complete indorsement and cooperation to all of these adaptations and exploitations of medical progress or they are accused of professional selfishness and a desire to protect their own professional interests. In all other fields of economic activity, protection of individual interests is considered highly desirable, and brings no reproach to the lay interests which follow this principle. But the medical profession must have no individual interests. Its interest must be for humanity, and it must be as high as the heavens and as deep as the sea. And it must avoid the very appearance of evil.

There are other influences in the social and economic system of our cities and country that work indirectly against the medical profession financially. Allow me to call your attention to the free clinic. I have no criticism of the free clinic and I would not want to be misunderstood. It is a most worthy charitable institution and we recognize it as such. We have not a single objection of the clinic or the use of it; it is the abuse that concerns us and should be the concern of every physician.

We have had the poor with us always and they will be with us until the Judgment Day dawns, unless some miracle should occur to banish poverty from the earth. As in the past, they have had to be cared for, so it is in the present, and so it will be in the future.

When a needy, poverty stricken patient comes to the door of the clinic he should be accorded every service of the clinic. It was for the needy, indigent poor that these clinics were established; such, and only such, should receive the service.

But every physician who is associated with a free clinic is fully aware of its abuse. He knows that there are hundreds who come to the clinic for treatment who do not belong to the indigent class at all, but who are well able to pay for the time and service of the physician. They are grafters, and not entitled to any of the privileges of the free clinic.

This is the abuse of the free clinic, and the fee that should rightfully and honestly go to the doctor is diverted from its proper channel. The man who can pay and will not is simply a grafter. He would probably feel insulted at this

appellation, considering as he does, that he has a perfect right to take that for which there is no charge.

Sometimes this is ignorance, and sometimes thoughtlessness, but more often it is the cheap idea of getting something for nothing. So it is by the abuse of the free clinic that the medical profession suffers a financial loss over every year. If there were some way or method adopted in these clinics whereby the Associated Charities, Social Service and allied organizations could investigate the worthiness of each case, then these grafters would not presume upon the generosity and good will of the doctors who give of their time and service free for the benefit of humanity.

People who are self-supporting should have too much self-respect and pride in their independence to accept this charity. They should be just as much ashamed to accept free medical service when they are able to pay for it as to accept any other charity that has been established solely for the very poor.

The deadbeat is another source of financial loss to the medical profession each year. He is one of the evils that we always have with us, and while he should not be included in the physician's practice, somehow, every year, he manages to beat the profession out of many a hard earned fee. And there is no answer to this problem.

Also, there is a considerable financial loss to the profession each year caused by its attitude toward deadhead practice. Every physician has numbers of such in his clientele which includes members and families of the profession, immediate relatives, influential friends, the clergy and others. It is according to the ethics of the profession to give such service without remuneration and it is in no way a criticism or complaint; it is simply stating a fact. Every member of the profession gives his service cheerfully and freely, and would not have it otherwise. We are just accounting for incomes—and for lack of them.

There are many other channels through which the rightful income of the profession is diverted, and the wonder of it all is that the profession can and does survive with such a large percentage of loss. Somebody has said, "What we give, we save," so perhaps that accounts for our survival.

There are so many different conditions and circumstances that arise to confront the physi-

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EDITORIAL

KANSAS-MISSOURI, CO-HOSTS 1936 A. M. A. CONVENTION

For the first time in history, Kansas City, Missouri, has been chosen as the host city for the annual convention of the American Medical Association. Of the cities seeking the convention only Kansas City and Chicago had ample facilities to meet the demands of this meeting. On the floor of the House of Delegates it was decided that Kansas was to act as co-host with Missouri.

The 1936 convention will be held on May 13, 14, 15, and 16, approximately a month earlier than the usual date. This is the first time for several years that the annual meeting has been held other than in June but because of more favorable weather conditions May was deemed preferable.

The headquarters of the convention will be the new city auditorium in Kansas City, Missouri. This building, now under construction as a Public Works Administration project, will offer excellent quarters for the general and divisional sessions, as well as ample space for the scientific and commercial exhibits. The city auditorium is conveniently located to the union station and many of Kansas City's leading hotels.

Kansas, according to the 1935 registration, was thirty-third in attendance but with only twenty-seven members present. The splendid speakers and exhibits that this 1936 convention will undoubtedly offer, will afford an excellent opportunity for educational development and new ideas in the practice of medicine. The meeting will be held within easy driving range of every member of the Kansas Medical Society. The loss of time from one's practice will be a minimum. Let us begin to plan now to make the 1936 A. M. A. convention 100 per cent registration year for the Kansas Medical Society.

THE YOUNG PHYSICIAN

Very shortly, nearly four thousand young physicians will be graduated from the colleges and universities of this country. These graduates will replace a like number of hospital internes who will now seek locations for practice in communities of their selection. To their older colleagues in practice, these young physicians may become a source of annoyance or inspiration, depending entirely upon the attitudes and personalities of each. The pledgling may be denied a welcome because of an attitude of "know-it-all." He may look with thinly veiled contempt upon the "old foggy" who has not been privileged to learn the newer diagnostic methods of the modern teaching hospitals. He may forget and underestimate the art of practice attained through years of careful study in the sickroom. He may be so foolish that he feels his success can be assured without fraternal fellowship and cooperation. It will be tragic indeed if any of these factors should mar his reception into the medical circles of his chosen location, but the onus does not rest solely upon the newcomer. How will the older, well established physician receive his junior colleague? Will he look upon him as a dangerous competitor to be belittled, shunned and discouraged? Will he feel that his more modern training, his more recent preceptorship in the seats of learning, or his more refined and precise methods of diagnosis make him an intolerable competitor? Will he forget his own early struggles in practice and deny the beginner those words of inspiration and encouragement which may spell his success or failure? Age and youth rarely meet without profit to each. Youth may learn the wisdom of experience. Age is rejuvenated by the freshness and vigor of youth. Competition may be a friendly striving for perfection and respect as a reward of excellence, or it may be spoiled by jealousies and misunderstandings. As the one ennobles the practice of the healing arts, so the other destroys and makes commonplace a time honored profession.—Journal of Iowa State Medical Society, June, 1935.

LABORATORY

Edited by J. L. Lattimore, M.D., Topeka, Kansas

HEMOLYTIC JAUNDICE WITH CASE PRESENTATION AND RESULTS OF SPLENECTOMY

C. E. JOSS, M.D., M. GERUNDO, M.D., and
R. M. BRIAN, M.D.

Topeka, Kansas

In 1900 Minkowski wrote his classical description of a syndrome consisting of a chronic icterus with splenomegaly, urobilinuria and hereditary factors; however, priority evidence is found in the writings of Chauffard and Hayem. Since 1900 this condition has been studied extensively, especially in France, Italy and Germany.

Hemolytic Jaundice is a chronic disease characterized by anemia, increased fragility and increased destruction of erythrocytes, acholuric urines and splenomegaly, with two definite types: Familial or Chauffard-Minkowski type and acquired or Hayem-Widal type. The former is the more common and clinically the less severe in that it manifests itself early in life, runs a more chronic course and is not accompanied, as a rule, by as severe an anemia as the latter. The acquired type has been reported to follow acute infections among which cholangitis has been mentioned; and this type is prone to occur in middle age groups.

In that there appears to be two distinct clinical types of this disease, it was thought that the differences were due to different morbid processes; however, the works of the Italian school (Micheli, Ceconi, Galli Cavazza) indicate that the pathological changes are identical in both types. In brief, both types reveal the following morbid changes: The spleen is always enlarged in size and histological study shows hyperplasia of the cordons of Bilotz which are engorged with blood while the venous sinuses are almost empty. Iron is found in macrophages in the venous sinuses and around the vessels. No signs of sclerosis or fibroadénie such as seen in Banti's Disease are found. The liver shows a modest enlargement and is of normal consistency. Study shows proliferation of Kupfer's cells and marked erythrophagocytosis. The bone marrow is hyperplastic and red. The kidneys contain varying amounts of hemosiderin.

The pathogenesis of the disease may be summarized as follows: The outstanding feature of the process is the hyperhemolysis which is followed by splitting up of the hemoglobin which is transformed into bilirubin after losing the iron content. The results of this rapid hemolysis are: (1) Hyperbilirubinemia characterized by increased stercobilin and urobilin (2) Hyperbilirubinemia represented by an increase in the blood of functional bilirubin as shown by the indirect Van den Bergh reaction (3) Splenomegaly due to the enormous amount of blood cells massed in the spleen (4) Secondary anemia due to the intense destruction of cells and (5) microcytosis and reticulocytosis in the peripheral blood which reveals an attempt at regeneration of red blood cells.

Two theories have been advanced to explain the syndrome. The splenic theory is based on the assumption that the disease is a primary spleen condition and it is caused by an increased hemocatabolic and hemocateretic action of the spleen and reticulo-histiocytic systems. The constitutional theory holds that the disease is caused by an anomaly in the formation of erythrocytes which by virtue of their primary increased fragility are more easily destroyed by the hemolytic organs. The good results obtained following splenectomy yield evidence in favor of the splenic theory; however, it has been noted that even after marked clinical improvement following splenectomy, the blood continues to show the presence of microcytes and the red cells still show increased fragility in many cases. This may be due to the action of remaining elements of the reticulo-histiocytic system. Micheli, in Italy, who was the first to demonstrate the remarkable results following splenectomy, explains the syndrome as follows: It is the expression of functional anomaly in various organs forming the hemolymphopoietic system, i.e. the spleen, liver, bone marrow and lymph glands, in which the prevailing phenomenon is the excess of globular destruction connected with the primary increase in hemocateretic activity of the spleen and eventually of the other organs of the system.

CASE REPORT

The patient is a white female fifty-five years of age, of German-Irish descent and the mother of one grown daughter. Her past history was more or less irrelevant and her occupation for many years had been that of seamstress. Her family history as elicited from the patient revealed no knowledge of any familial disorder

in any way resembling the patient's disease. The patient was first seen by one of us during the fall of 1931 at which time she evidently had a chronic arthritis involving both knees. X-ray at that time revealed no changes and she obtained some relief from diathermy. This is mentioned because of the occasional clinical association of chronic arthritis, splenomegaly and anemia.

The patient was in fair health until January, 1934. At this time she began to complain of weakness and stated that she tired very easily. In a short time a painless progressive jaundice was in evidence and the patient was ill and not at work for two months. Clinically, the jaundice was obstructive in type and associated with light colored stools, etc. She gradually improved with recession of the jaundice and returned to work in March, 1934.

She was next seen by one of us early in January, 1935, at which time she was making a slow recovery from an upper respiratory infection and presented definite evidence of an infected left maxillary sinus, and she was referred to Dr. B. J. Ashley who later drained the antrum. Her general condition did not improve and about February 4, 1935, she was seen by Dr. G. L. Kerley, who noted that she was definitely anemic, with a peculiar icteric tinge to the skin, and who palpated an enlarged spleen. She was referred back to us for clinical work-up.

Physical examination done after hospitalization revealed an anemic white female of fifty-five obviously ill. She had a degree of fever and her pulse was ninety-six. She was complaining of weakness, shortness of breath and a distressing 'thumping' in her head. The skin had a brown icteric tinge and the spleen was greatly enlarged and extended to the midline and to the level of the umbilicus. The splenic notch could be palpated without difficulty. The blood pressure was 130/80. There was a blowing systolic murmur over the entire precordia although the heart was normal in size.

The patient was kept in bed until about a week before the date of operation. In that it is generally accepted that blood transfusion is contraindicated in these cases, liver therapy was instituted, for lack of anything else to do, and a remission was hoped for. The clinical course including the remission is best demonstrated by the following laboratory studies:

2-7-35 Day of Hospitalization

Blood count shows: Hglb. 45—Rbc 2,400,-

000; Wbc 4,600; Poly. 59; Myelocytes 2; Metamyelocytes 2; Lymphocytes 22; Monocytes 15; Moderate anisocytosis; Poikilocytosis and Microcytosis.

Urinalysis: Color reddish brown, cloudy at the emission, marked sediment, acid reaction, no albumin, no sugar, marked trace of indol, very marked urobilinogen, no biliary pigments or salts. In the sediment there are loads of amorphous urates. The stools are a very dark brown and contain abundant bilinogen; microscopically they show some debris, vegetable fibres and a small amount of undigested starch.

2-12-35 Blood count shows: Hglb. 40 per cent; Rbc 1,800,000; Wbc 3,500; Poly. 55; Myelo. 2; Metamyelo. 2; Lympho. 26; Mono. 14; Presence of anisocytes, poikilocytes and basophylic red cells.

2-13-35 Blood Chemistry: N.P.N. 20 mgrs. Sugar 100 mgrs. Bilirubin 4 units—Van den Bergh is positive indirect.

Fragility test: Maxima resistance 0.40 per cent NaCl Sol. Minima resistance 0.60 per cent NaCl Sol.

Blood typing: Group B

2-14-35 Blood Count: Hglb 30 per cent; Rbc 1,400,000; Wbc 3,300; Poly. 55; Mono 21; Lympho. 19; Erythroblasts 5; Microcytes and poikilocytes present.

2-16-35 Blood Count: Hglb. 35; Rbc 1,250,000; Wbc 4,400; Poly. 74; Lympho. 8; Mono. 14; Erythroblasts 4; Micro-, Macro- and poikilocytes are present.

2-18-35 Hglb. 38; Rbc 1,270,000; Wbc 3,500; Index 1.2; Poly. 56; Lympho. 14; Monoblasts 2; Monocytes 24; Erythroblasts 4; Reticulocytes 9 per cent; Marked anisocytosis and presence of numerous basophilic erythrocytes.

2-20-35 Hglb. 40; Rbc 1,440,000; Wbc 2,400; Index 1.3; Poly. 46; Mono. 24; Lympho. 18; Erythroblasts 12; Reticulocytes 15 per cent; Micro- and macrocytes, basichromatophilia

2-22-35 Hglb. 50; Rbc 1,400,000; Wbc 2,500; Poly. 52; Lympho. 24; Mono. 22; Erythroblasts 2; Reticulocytes 20 per cent

2-28-35 Hglb. 50; Rbc 2,200,000; Wbc 5,300; Index 1; Poly 58; Metamyelocytes 2; Lympho. 8; Mono. 32; Micro- and macrocytes, basichromatophilia

3-4-35 Hglb. 65 per cent; Rbc 2,500,000;

Wbc 5,000; Poly. 65; Lympho. 15; Mono. 20

3-4-35 Hglb. 70 per cent; Rbc 2,740,000; Wbc 4,100; Poly. 54; Eosinophiles 4; Lympho. 12; Mono. 28; Reticulocytes 12 per cent

3-14-35 Hglb. 65 per cent; Rbc 3,400,000; Wbc 6,500; Poly. 64; Lympho. 18; Mono. 18

Blood is stationary until

3-27-35 Hglb. 60 per cent; Rbc 2,500,000; Wbc 8,100; Poly. 76; Myelo. 2; Lympho. 4; Mono. 14; Rieder Cells 2

Microcytes and macrocytes are more marked than in previous smears.

In that a new hemolytic episode was feared as the Rbc count fell nearly 1,000,000 in four days and the patient was becoming noticeably icteric, operation was advised. Splenectomy was performed March 29, 1935, under ether anesthesia. Briefly the technique was as follows: Exposure was obtained through a left paramedian incision extending from the costal arch to about one inch below the umbilicus. One c.c. of Pitressin was given by hypodermic because of gaseous distention of the bowel. The colon was packed down and to the right. The stomach was kept empty by means of a Levine tube which had been passed nasally before the operation. The spleen was very much in evidence and although it had diminished in size during the remission, it was enlarged to at least six times the normal size. After hasty examination of the gall bladder and liver, which were essentially normal in appearance, splenectomy was done. There were no adhesions between the spleen and diaphragm and the spleen was approached by double ligating and cutting about three-fourths of the gastro-splenic ligament beginning below and proceeding toward the upper pole. The spleen was then rotated to the right exposing the lieno-renal ligament. By gentle traction it was found possible to deliver the spleen through the wound without cutting this ligament. The entire pedicle was double clamped, paying special attention to the stomach and tail of the pancreas, and the spleen was removed. The pedicle was double ligated, covered and replaced behind the stomach. At this point the patient showed signs of shock and it was necessary to administer artificial respiration, while the abdomen was being closed.

300 c.c. of normal saline and 500 c.c. of blood was given and the patient was not removed from the table for about thirty minutes—after which time her condition was satisfactory.

The postoperative course was uneventful. The Levine tube was left in the stomach for seventy-two hours and the stomach was kept empty. The usual postoperative care was given and the patient was sitting up on the fourteenth day.

The clinical course following splenectomy may be judged by the following blood counts. (We wish to call attention to the leukocytic reaction following splenectomy):

3-30-35 Hglb. 72 per cent; Rbc 3,610,000; Wbc 24,000; Poly. 78; Myelo. 2; Rieder cells 2; Mono. 16; Lympho. 2; Microcytes and macrocytes, poikilocytes are present.

3-31-35 Hglb. 78 per cent; Rbc 3,710,000; Poly. 89; Mono. 9; Lympho 2; Wbc 31,400

4-1-35 Hglb. 75 per cent; Rbc 3,160,000; Wbc 19,600; Poly. 84; Lympho 2; Mono. 14

4-2-35 Hglb. 70 per cent; Rbc 3,030,000; Poly. 76; Myelo. 2; Mono. 14; Lympho. 8

4-3-35 Hglb. 65 per cent; Rbc 3,300,000; Wbc. 10,000; Poly. 72; Eosino. 4; Mono. 18; Lympho. 6

Microcytes and poikilocytes are less evident in the blood smears.

4-5-35 Hglb. 75 per cent; Rbc 3,820,000; Wbc 10,600; Poly. 84; Lympho. 9; Mono. 7

Microcytes and poikilocytes are disappearing and the red cells are more uniform in size and shape.

4-9-35 Hglb. 80 per cent; Rbc 4,180,000; Wbc 16,800; Poly. 72; Mono. 8; Lympho. 20

4-13-35 Hglb. 85 per cent; Rbc 4,540,000; Wbc 10,500; Poly. 56; Eosino. 2; Basophiles 2; Mono. 16; Lympho. 14

4-20-35 Hglb. 90; Rbc 4,400,000; Wbc 10,000; Poly. 70; Lympho. 20; Mono. 10; Reticulocytes 3 per cent.

Very few microcytes and some crescentic forms are seen in the smears, no macrocytes are seen.

The pathological report reads as follows: The spleen weighs 600 grams after about 150

c.c. of blood has been squeezed out. It is eighteen c.m. long, eleven c.m. wide, and five c.m. thick. The form of the capsule and the fetal incisions are preserved. The capsule is smooth and thin and distended by the enormous amount of splenic parenchyma. The vessels at the hilus show no gross lesions other than general enlargement and no spleneculus was present. On section, it is revealed that the consistency of the spleen is markedly increased. The color is a dark red, throughout which the white points corresponding to the corpuscles of Malpighi are seen in contrast. The connective tissue framework does not seem increased but somewhat decreased in proportion to the large size of the organ. The vessels are moderately dilated. No deposits of ferruginous pigment are observed.

Smears from the spleen, taken soon after splenectomy, reveal the presence of lymphoid and monocytoïd elements, large polymorphous cells of endothelioid character, a few eosinophiles, blood platelets and no myeloid elements.

Microscopic examination revealed: A thin capsule formed by bundles of parallel fibers which are poorly endowed with nuclei. The capsule, as well as the marginal zone of splenic parenchyma, stain poorly, probably due to distention of the organ. The trabecular structures entering the parenchyma from the capsule are widely separated and are undergoing a partial hyalinization. In sections stained by the method of Bielschowski, the capsular and trabecular stroma appears to be formed by parallel thick fibers which break up and run in every direction near the vessels which they encircle. This stroma is poor in nuclear elements and the nuclei observed are near the parenchyma and are of the fibroblastic type. The red pulp is formed by a fine network of fibers in which are contained a large number of cells of reticular character, some of which are free in the lumina of the cordons. Very fine argrophyle fibrils depart from the cordons and encircle the cells, giving the appearance of honeycomb structure. The cordons are thinner near the follicles and stretch out in such a way as to resemble venous sinuses. Near the follicles these are engorged and even resemble cavernoma. The cells of the cordons show macrophagic activity and granules of hematic pigment are seen in the cytoplasm. In contrast to the cordons are the venous sinuses which appear dilated and empty. In a few fields the cells of the

cordons are proliferating so rapidly that they compress the venous sinuses which are difficult to identify. Karyokinetic figures are seen infrequently in the cordons.

The vessels in the red pulp show a thickening of the vessel walls which show a partial hyalinization and some proliferation of the intima is seen in the larger vessels. Around the vessels there is a moderate degree of fibroadénie. There appears to be no increase in the number of the follicles of Malpighi but these structures are very cellular, and lymphocytic proliferation without definite follicular formation is observed around some of the vessels or near the trabeculae. At the center of most of the follicles there is an intense proliferation of reticulo-endothelial elements which form germinative centers. The central artery is thickened and shows signs of hyaline degeneration.

The microchemic reaction demonstrates a moderate amount of iron located in the walls of the vessels and around the trabeculae. Iron is seen also in intracellular deposits in the cordons of Billroth and in the lumina of the venous sinuses. A moderate amount is present in the reticulo-endothelial elements at the center of the follicles.

In conclusion it may be stated that this case demonstrates the syndrome known as acquired Hemolytic Jaundice or Hemolytic Splenomegaly, Banti type. The diagnostic essentials as demonstrated are:

- (1) Hyperbilirubinemia—as shown by an increased amount of stercobilinogen and urobilinogen. The urine revealed an increased amount of urates which some observers state is almost constant in hemolytic splenomegaly.

- (2) Hyperbilirubinemia—as shown by the indirect Van den Bergh reaction.

- (3) Splenomegaly.

- (4) Secondary Anemia—which during the relapse reached a dangerous low of 1,270,000 erythrocytes. Leukopenia was constant during the relapse.

- (5) Increased fragility of the red cells.

- (6) Microcytosis and reticulocytosis: These cells were definitely increased and during the course of the disease other cellular elements of the bone marrow circulated in the peripheral blood.

- (7) Marked clinical improvement following splenectomy: It is interesting to note that the white cells increased to a maximum of 31,400 following splenectomy. This is a characteristic reaction.

The red blood count four weeks after splenectomy was 4,480,000. The blood smear was normal. Fragility test at that time revealed: Minima 0.42, Maxima 0.32.

Thus we see that the red cell fragility was normal four weeks after splenectomy. This fact certainly supports the Splenic Theory as the cause of the disease.

SUMMARY

(1) The syndrome known as Hemolytic Jaundice is discussed briefly including the theories of etiology and the pathology.

(2) A case of acquired Hemolytic Jaundice or Hemolytic Splenomegaly of Banti is presented with laboratory detail. The marked clinical improvement following splenectomy is demonstrated.

RECENT PROGRESS NOTE

At the time the article on Hemolytic Jaundice was written, the patient had very much improved, and we felt that the course of convalescence would have been uneventful. Soon after, the patient started to note vague symptoms of deficiency and was confined to bed with a picture of complete adynamia and circulatory insufficiency. Such picture has been considered in the literature as a consequence of splenectomy, but has been only vaguely explained as a lack of some important function of the spleen on the circulatory system. A recent article by F. De Victoriis-Medori, in *Pathologica*, June, 1935, offers the hypothesis of some influence of the spleen on the sympathetic and parasympathetic, with possible disquilibrium of some hormonal interrelations.

In the development of such adynamic picture, we consider the age an important factor. The splenic tissue or hemolymphatic glands, scattered in the organism, may revive more easily in young subjects than in older ones, with replacement of some important splenic function.

The patient now is gradually improving and has been allowed also to go around the room. The blood picture, however, has remained stationary during the relapse, at the high levels mentioned in our article.

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OFFICIAL PROCEEDINGS

77th Annual Meeting

Conclusion

Report of the Necrology Committee submitted by Dr. J. T. Axtell, Chairman:

The hour has come when we should lay aside our labors and do honor to the memory of our brothers—our fellow workers who have passed on during the last year to the Great Beyond.

They have solved the age old problem, "If a man die shall he live again?"

Their work on earth is ended. They live only in our memories, in the counsel they gave, in the noble work they did. To us is left the task to carry on—to take up the problems and the work of the greatest profession on earth and to fulfil its destiny. Last year our brothers were with us. Today their places are vacant. We miss them. Many of them were our intimate and dear friends. Let us resolve today to be faithful to the trust they have left us.

The names of those we have been able to collect are:

A summary of the causes of death as reported discloses cases of:

Heart disease	20
Cancer of stomach	4
Diabetes	4
Cerebral hemorrhage	3
Nephritis	3
Obstruction of bowel	2
Colitis	2
Cancer of throat	1
Heat stroke	1
Appendicitis	1
Neuritis	1
Apoplexy	1
Femur fracture	1
Senility	1
Septicemia	1
Metastatic epithelioma	1
Not known	1
Arteriosclerosis	1

NAME	AGE	RESIDED	CAUSE OF DEATH
George L. Baughman	60	Kansas City	Diabetic gangrene
Franklin F. Carter	60	Seneca	Hypertensive heart disease
Archibald McGauhey	63	Robinson	Cancer of throat
Charles J. Cahill	59	Lawrence	Cerebral hemorrhage
Matthew M. Hill	63	Winfield	Diabetes mellitus
George C. W. Richards	79	Deerfield	Cancer of stomach
John Louis Moorhead	64	Neodesha	Endocarditis
George Brinton McClellan	70	Weir	Arterio Sclerotia
Anderson Grose	59	Bonner Springs	Cerebral hemorrhage
Chester Leslie Stocks	66	Bushong	Heat stroke
Hugh Wilkinson	56	Kansas City	Coronary thrombosis
Frances Mammel Beasley	82	Hutchinson	Chronic nephritis
Johnson Frank Heath	65	LaHarpe	Coronary thrombosis
Emily Spencer	87	Holton	Colitis
Levi A. Van Pelt	69	Paola	Coronary occlusion
Silas W. Nossman	61	Cunningham	Perforated appendicitis
Oscar Hugh Reynolds	80	Winfield	Metastatic epithelioma
Henry Shelby McKenzie	49	Kansas City	Acute dilatation of heart
James Napoleon Ketcherside	84	Hope	Diabetes
James Smith Hibbard	61	Wichita	Chronic myocarditis
Horace Eaton Potter	75	Clifton	Not known
Herman H. Bogle	67	Pittsburg	Peripheral neuritis
Simon Jacob Hampshire	74	Overbrook	Arteriosclerosis
Ira Hugh Dillon	61	Topeka	Diabetes
Millard Fillmore Jarrett	77	Ft. Scott	Septicemia
Guy William Allison	48	Ft. Scott	Septicemia
Chas. Edwin Grey	65	Parsons	Hypertension with nephritis
Merle K. Scott	56	Pittsburg	Acute intestinal obstruction
Charles Neikulo	72	Dwight	Carcinoma of stomach
Hugh Boggs Hawthorne	46	West Mineral	Angina pectoris
Franklin Lightfoot	84	Great Bend	Chronic myocarditis
Wilbert Allen Uhl	75	Baldwin	Myocardial insufficiency
Herman G. Burris	64	Conway Springs	Fractured neck left femur
William Boone McClure	60	Towanda	Cerebral hemorrhage
Charles McIlroy Brown	46	Kansas City	Dilatation of heart
Lewis Joseph Hammers	57	Goodland	Angina pectoris
A. Balfour Jeffrey	55	Topeka	Diverticulitis of sigmoid
Jacob Kiegler Hoffman	72	Wichita	Coronary thrombosis
William Cathey Harkey	63	Lenexa	Carcinoma of stomach
Alpheus Hamilton Gaus	88	Abilene	Senility
William Edgar Hare	74	Garnett	Angina pectoris
Benjamin Edwin Moody	75	Hutchinson	Acute cardias dilatation
Benjamin F. Roe	63	Chetopa	Coronary thrombosis
Charles Albert Nilton	82	Dodge City	Angina pectoris
David E. Clopper	68	Kansas City	Obstruction of bowel
Harrison H. Norris	73	Whitewater	Mitral regurgitation
Benjamin C. Geeslin	72	Arkansas City	Coronary thrombosis
Samuel Hayden Murphy	72	Yates Center	Carcinoma of stomach

Report of the Committee on the Stormont Library, submitted by Dr. R. M. Fellows, chairman:

This report was to have been presented at the annual meeting of the Kansas Medical Society in Salina, Kansas, May, 1935, but due to the absence of the chairman, was omitted.

In order to make more available the books and periodicals in the Stormont Medical Library an arrangement has been completed with the executive secretary of the Kansas Medical Society whereby it is hoped that the medical profession in Kansas will find it possible to use this library more. Upon request made to the Kansas Medical Society, Stormont Building, Topeka, Kansas, any material in the library will be forwarded to, and references will be looked up and sent to any member of the State Society. Postage both ways on this material is required.

The present library committee for two reasons has not purchased any new books, (1) on account of the lack of interest and the little use made of the present available material, (there has not been a single request to this committee for the purchase of a new book this year). (2) A plan has been completed with the editorial board of the Journal by which the books sent to this board for review will be placed in the Stormont Library after they have been reviewed. A list of these current books, placed in the library, will be published from time to time, so they will be known to the members of the State Society.

Subscriptions to journals have been continued which include the following:

American Journal of Diseases of Children.

American Journal of Medical Sciences.

American Journal of Public Health.

Annals of Surgery.

Archives of Internal Medicine.

Archives of Pediatrics.

Archives of Surgery.

Journal of the American Medical Association.

Journal of the Kansas Medical Society.

Journal of the Missouri Medical Association.

Medical Journal and Record.

Quarterly Cumulative Index.

Surgery, Gynecology and Obstetrics.

All of these journals are available for loan upon request.

The report last year showed \$114.53 in the treasury; the amount on hand this year is \$299.11. If interest in the library justifies ex-

penditure of an appropriate amount of these funds for new material, this expenditure will be made.

TUBERCULOSIS ABSTRACTS

RESULTS OF PNEUMOTHORAX

Of fifty sanatoria which volunteered to collaborate, twenty-four furnished data on pneumothorax sufficiently complete and suitable for study and tabulation. The study divided itself into two parts; the first was designed to ascertain in what proportion of patients pneumothorax therapy had been attempted, the proportion of "operative failures" and other related information, while the second part consisted of detailed case records, the total number of which submitted was not so large, probably because of the exacting criteria required.

TERMS DEFINED

To obtain comparable data it was necessary to define a number of terms. Intentional termination of pneumothorax was assumed when re-fills had been allowed to relapse. Termination was considered unintentional when oblitative adhesions had encroached on the pleural cavity. The term pneumothorax treatment required that there must be a demonstrable pleural sac and the patient must have received at least 100 c.c. of air or gas at regular intervals over a period of at least three months.

Very important, not only for this study but for consideration of pneumothorax in general, was the effort of the Committee to define precisely what is meant by effective collapse. Keeping in mind clinical, roentgenographic and laboratory criteria, the Committee decided that the following three conditions should be met, or at least two of them, when the third was doubtful or not stated:

1. Disappearance of symptoms.
2. Disappearance of bacillary sputum.
3. Demonstrable closure of cavities, especially roentgenographically.

STATISTICAL DATA

The incidence of pneumothorax reported by the sanatoria varied from 1 per cent to 34 per cent with an average of approximately 10 per cent. Twice as many females as males received pneumothorax treatment and by far the largest

number was between the ages of 20 and 35—an age distribution corresponding to the age-period of greatest frequency of pulmonary tuberculosis.

Approximately 40 per cent of the cases which received pneumothorax treatment, showed considerable cavitation, that is, destruction involving the collapsed or "treated" lung, and 25 per cent moderate cavitation, making a total of about two-thirds having more or less marked pulmonary destruction prior to beginning pneumothorax therapy.

The contralateral lung appears to have been essentially uninvolved in about one-third of the cases studied; slight lesions were recorded in a little over one-third; and moderate ones in a smaller group. Very few cases with contralateral cavitation were recorded.

Effective collapse was obtained or maintained in 38 per cent of the cases. In nearly two-thirds of the series it was necessary to discontinue treatment prematurely, most frequently because of the development of pleural complications. Two factors, small proportion of cases susceptible to effective collapse, and forced and premature discontinuance of collapse, appear to limit most seriously the success of pneumothorax therapy.

GENERAL CONCLUSIONS

Effectiveness of collapse of the diseased areas is the greatest single factor in obtaining successful results, whether immediate or more remote. It seems obvious that valuable time is often lost in continuing over a long period a poor pneumothorax when other and more promising measures are available, or when the patient is obviously deriving no benefit from the procedure.

The data furnished no substantial support for the common impression that patients under twenty years of age respond poorly to collapse therapy. In fact, measured by immediate results and effectiveness of collapse those under thirty-five fare better than those over that age. Wider use of pneumothorax in the group under twenty seems indicated.

The later results, in general, assessed one to fifteen years after termination of pneumothorax treatment, appear distinctly gratifying. Although a considerable number of patients could not be traced, over 70 per cent of those followed were still living and of these three-quarters were able to work. Thus, with due consideration of its very considerable limita-

tions, artificial pneumothorax appears to be undeniably one of our most valuable therapeutic measures in the treatment of pulmonary tuberculosis. We may further add that from this study its discontinuance seems warranted in many cases after a reasonably adequate period of effective treatment, which cannot be too dogmatically predicted.

A Survey of Artificial Pneumothorax in Representative American Tuberculosis Sanatoria, 1915-1930, Peters, Pope, Morriss, Packard and Miller, *Am. Rev. of Tuber.*, Jan. 1935.

MEDICAL LITERATURE

Edited by Will C. Menninger, M.D., Topeka, Kansas

ACNE AND FURUNCULOSIS

Goodman made the general observation that the average salt content of the blood increases as the average sugar content decreases. Experimenting in some cases of furunculosis and acne, he found that these individuals responded to intravenous and locally administered sodium chloride in a physiological solution. His first injection is 100 cc. which is increased by 50 cc. until a maximum of 250 cc. is reached. It has caused no ill effects and in many cases it has had a very gratifying result. He states that his study is only a preliminary report of his clinical experiences, but believes that his results warrant further study and a wider application.

Goodman, H. Acne and Furunculosis, Preliminary Report of Treatment with Physiologic Solution of Sodium Chloride Locally or by Intravenous Injection. *The Archives of Dermatology and Syphilology*. 31:828-830. June, 1935.

HEADACHE AFTER ENCEPHALOGRAPHY

Elsberg and Southerland make a very careful study of the relationship between the injection of air into the ventricles in encephalography and the subsequent headache. They found that the headaches most often occurred at the time when the injected air had entered the third and lateral ventricles, and that the headache was the result of a profound disturbance of the normal pressure relationships within the ventricles. Because of the fact that there is a difference in the type of headache and its location depending on the location of the air they assumed that by a careful observation of these points it might be possible to throw light on the mechanism which produces headaches under other conditions.

Elsberg, C. A. & Southerland, R. W.: The Etiology of Headache: I. Headache Produced by the Injection of Air for Encephalography. *Bull. Neur. Inst. N. Y.* 3:519-543 (Mar.) 1934.

MERCURIAL DIURETICS

Crawford and McDaniel record their studies of fifteen patients, all in advanced stages after long periods of invalidism. Ten of these patients had heart disease and five had cirrhosis of the liver. They tried Mercupurin and Salyr-gan. With this mercurial diuretics they also combined theophylline and in every instance produced a satisfactory increase in the urine volume without toxic affect. The mercury in every case was given intravenously. The combination of an organic mercurial compound with theophylline produced better response than the organ mercurial preparation alone.

Crawford, J. H., and McDaniel, W. S. Some Observations on Mercurial Diuretics, *Annals of Internal Medicine*, Vol. 8; p. 1266-1273. April, 1935.

HABITUAL HYPERTHERMIA

Reimann of the University of Minnesota Medical School reports a study of four cases of long continued low grade fever. In these cases the fever was entirely within the normal range of temperature in which, he states, the extremes are from 36.1 C (97 F) and 38 C (100.39 F). It is his opinion that the temperature in certain normal individuals may be regulated slightly above the usually accepted normal level, and in some persons of a neurotic nature the elevated temperature is one of the signs of their abnormal constitutional type, together with other evidence of vaso-cardiac and nervous instability. He cautions, however, that this condition should not be regarded as a neurosis or as habitual hyperthermia except after prolonged and thorough examination fails to reveal an organic basis. He found that antispasmodic drugs had no effect on the temperature and likewise the antipyretic drugs fail to lower the temperature.

Riemann, H. A. Habitual Hyperthermia, *Archives of Internal Medicine*, 55; 792-808. May, 1935.

MUSHROOM POISONING

These writers report four cases of mushroom poisoning, dividing the reactions into rapid and delayed types. In the rapid type of poisoning, the symptoms develop in from one to three hours, chiefly excessive salivation, perspiration, and lacrimation. Nausea, vomiting, and severe abdominal pains and diarrhea occur. The mortality is low and the patients respond well to treatment. In the delayed type, the onset is from six to fifteen hours after the ingestion of the fungi. Abdominal pains are severe, and nausea and vomiting usually extreme. Jaundice nearly always occurs and renal damages frequent. The mortality is at least fifty per cent.

They give the pathological findings in two cases and discuss at length the treatment, of which there is no very satisfactory treatment at the present time except symptomatic, with emetics, gastric lavage, high colonic irrigation, intravenous sodium chloride solutions, opiates for the pains and cramps, and atropine for the salivation and lacrimation.

Vander Veer, J. B., and Farley, D. L. Mushroom Poisoning (Mycetismus) *Archives of Internal Medicine*, 55:773-791. May, 1935.

WASSERMANN FAST SPINAL FLUID

Goodman and Moore review 212 patients with neurosyphilis. They divide this group into ninety-five patients for whom the reaction of the spinal fluid remained persistently positive, and 117 for whom the positive reaction was reversed by treatment. In a very careful analysis of these cases, they come to the conclusion that a persistently positive reaction of the spinal fluid does not indicate that the patient is going to have a subsequent progression or relapse in every case. Further, they state that the rate of completeness of reversal of the reaction in the spinal fluid cannot be used as the sole guide to the optimum duration of treatment in cases of neurosyphilis. This article is a very pertinent one because while every physician recognizes the existence of a Wassermann fast state in the blood in some cases of syphilis, rarely has attention been called to the possibility of a Wassermann fast spinal fluid. Goodman and Moore's study shows definitely that this does occur, but that it cannot be used either as an indication to point to a relapse, nor can its clearing up necessarily be the sole indication for the duration of treatment.

Goodman, M. J., and Moore, J. E. Persistent Abnormalities (Wassermann-Fastness) of the Spinal Fluid in Treated Neurosyphilis. *The Archives of Internal Medicine*, 55:826-833. May, 1935.

REACTIONS DUE TO PHENOLPHTHALEIN

In this study, the literature is very carefully combed and a study made of the reported cases of phenolphthalein reactions. The reports in the literature deal mainly with general constitutional effects and with cutaneous eruptions, the latter being quite characteristic. The total number of reactions observed is small, if one considers the extensive use of the drug. It is the author's opinion that phenolphthalein reactions are due to a particular hypersensitivity, a specific sensitization which is allergic in nature. Most of the cutaneous reactions and certain of the general effects were noted after the use of a single or occasional average dose

of the drug. In nine cases the systemic disturbances resulted from an overdose and in six cases there was a question of possibly cumulative action. The age of the recipient could be excluded as a factor of any importance. There were no changes in the chemical or microscopic examinations of the blood and urine.

Abramowitz, E. W. Reactions Due to Phenolphthalein, A Study of Their Pathogenesis. *The Archives of Dermatology and Syphilology*. 31:777-795. June, 1935.

BLOOD

A Review of the Recent Literature

For anyone who even pretends to be interested in the blood and its examination, they could profit tremendously by reading the review of the recent literature on this subject by the staff of the Thomas Henry Simpson Memorial Institute for Medical Research at the University of Michigan, that occurs in the June number of the *Archives of Internal Medicine*.

This summary covers some eighty pages and includes nearly 500 records. It is a most careful, painstaking work and covers all phases of blood and many of its relationships to diseases outside the hematopoietic system.

Sturgis, C. C., Isaacs, R., Goldhamer, S. M., Bethell, F. H., and Farrar, G. E. Blood, A Review of the Recent Literature. *Archives of Internal Medicine*. 55:1001-1081. June, 1935.

CARDIOVASCULAR SYPHILIS

Five authors join here to report a study of 346 patients with syphilis. Of this number 41.9 per cent showed positive evidence of cardiovascular syphilis. They classify these patients into the periods following the chancre in which the patient came for examination, as well as estimating the time when the cardiovascular disorder arose. It is their impression that involvement of the aorta begins soon after the chancre and discovery ordinarily is delayed until there is a development of symptoms referable to the heart. Consequently heart failure occurs only in those patients in whom syphilitic involvement has passed beyond the stage of simple aortitis. Roentgenograms and fluoroscopic examination provide the most reliable means of deciding whether abnormality of the aorta is present in early syphilis. They believe that an examination should be made at least every six months or a year, so long as the patient is known to have active syphilis.

This article contains a careful statistical analysis of these cases which does not lend itself to a brief abstract.

Maynard, E. P., Curran, J. A., Rosen, I. T., Williamson, C. G., and Lingg, C. Cardiovascular Syphilis, Early Diagnosis and Clinical Course of Aortitis in Three Hundred and Forty-six cases of syphilis. *Archives of Internal Medicine*. 55:873-894. June, 1935.

DISEASES OF THE HEART

Graybiel and White have presented an excellent review of the contributions made during 1934 to the diseases of the heart. This article is a priceless one for all internists and particularly cardiologists. They summarize the physiology and experimental pathology, as well as pharmacology, electrocardiography, roentgenology, incidence and etiology of heart disease, arterial hypertension, dissecting aneurysm of the aorta, valvular heart disease, coronary heart disease, and congestive heart failure. They review some seventy papers in making this summary. Perhaps of particular interest are the new suggestions in regard to the etiology of arterial hypertension reviewing particularly the work of Cushing, Kylin, Daniel, Olmer and Carbonel and several others.

Graybiel, A., and White, P. D. Diseases of the Heart, A Review of Contributions Made During 1934. *The Archives of Internal Medicine*. 55:842-870. May, 1935.

BLOOD FROM THE DEAD FOR TRANSFUSION

Over a period of more than five years, many hospitals in Russia have been experimenting with the use of blood taken from cadavers for transfusion. This is necessitated because of the inability to often get blood for the indigent patients who need it very much. In Russia it has become a legalized procedure and in this method the blood is withdrawn in aseptic jars with a solution of sodium citrate, a specimen is sent to the laboratory for various tests, and the blood is placed in a refrigerator awaiting its use. They report that the blood can be preserved up to about twenty-eight days and possibly longer, tho they prefer to use it before it is more than twelve days old. The blood is most preferably obtained from suicides or from those dying from traumatism. There is no preference as to the age or the sex. In more than 400 transfusions, they have had very few unfavorable reactions and it is gratifying that they always have a sufficient supply of blood at very little cost.

Editorial, Blood From the Dead for Transfusions, *Annals of Internal Medicine*, Vol. 8, p. 1375-1377. April, 1935.

CUTANEOUS COMPLICATIONS OF GONORRHEA

The author reviews the literature briefly and cites two case reports, in each of which there was a local skin infection by the gonococcus. The three most common types of skin lesions are: an erythema which closely imitates measles or scarletina, the purpuric type, and gonorrheal keratosis.

Pugh, W. S.: Cutaneous Complications of Gonorrhea. *Clin. Med. & Surg.* 42:125-126 (Mar.) 1935.

FAMILIAL RENAL GLYCOSURIA

Brown and Poleshuck report in detail four cases of renal glycosuria in which the familial nature of the condition is indicated and evidences given to show that it is a benign condition. In all of these cases the glycosuria threshold ranged between 100 and 110 mgm. of sugar in 100 cc. of blood. In spite of persistent loss of sugar in the urine there was no loss of weight or polyuria in any of these cases. Over a period of two years there have been no changes in the carbohydrate tolerance as shown by the glucose tolerance curves.

Brown, M. S. & Poleshuck, R.: Familial Renal Glycosuria. *J. Lab. & Clin. Med.* 20:606-608 (Mar.) 1935.

THE VALUE OF QUARANTINE ON THE PEDIATRIC SERVICE OF A HOSPITAL

In order to test the value of hospital quarantine a study of three years' duration was undertaken in the Children's Service of the Fifth Avenue Hospital in New York City. During this period no quarantine was enforced so that admissions and discharges were uninterrupted. Instead of quarantine and strict aseptic technique, specific convalescent serum was used for prophylaxis against all common contagious diseases in half of the susceptible population of the ward. The usual precautions against the spread of infection were used. The results of the study showed that only 2.1 per cent of the patients admitted to the hospital became infected while in the hospital, in contrast to 2.2 per cent in previous years when a strict quarantine was adhered to. It was concluded that the disadvantages of quarantine for a general pediatric service were greater than the good achieved by its use.

Park, W. H., Kereszturi, C., & Hauptmann, D.: Prevention of Common Contagious Diseases Without Quarantine on the Pediatric Service of the Fifth Avenue Hospital. *Am. J. Dis. Child.* 49:541-542 (Feb.) 1935.

CARDIOVASCULAR STATUS IN DIABETES

Friedman reports the study of a series of 120 cases of diabetes mellitus in persons above the age of thirty-nine. In this group arteriosclerosis was demonstrable in the aorta in 75 per cent of the patients and in the retinal arteries in 69 per cent. The heart was enlarged in 47 per cent; hypertension was present in 56 per cent. Female diabetic patients outnumber males two or three times after the fourth decade of life, and cardiovascular abnormalities are more frequent in females. The incidence of cardiovascular disease increases with age. The author points out that diabetic patients with severe arteriosclerosis and a high incidence of cardiovascular abnormalities

other than retinitis tend to have a mild diabetes. Rheumatic fever and syphilis are minor factors in the development of cardiovascular disease in diabetic patients.

Friedman, G.: Cardiovascular Status of Diabetic Patients After the Fourth Decade of Life. *Arch. Int. Med.* 65:371-394 (Mar.) 1935.

TUBERCULOSIS IN PREGNANCY

Floyd, who is the physician-in-chief of the Boston Health Department and the Division of Tuberculosis, presents a very interesting study of the effects of pregnancy on pulmonary tuberculosis and recommends various forms of treatment. It is his feeling that the treatment in such instances necessitates a pneumothorax or phrenicotomy or the cessation of the pregnancy, that the pulmonary treatment must be carried out rather early and that the therapeutic abortion when it is indicated is effective depending on the stage of gestation, the choice of the anesthetic, and the simplicity of the surgical procedure. He also discusses the advisability of sterilization, pointing out that the increased sexual activity, common among people with tuberculosis, often makes it desirable. This can be done most effectively at the time of the abortion or at a later period in order to prevent pulmonary disintegration or even death from tuberculosis contingent upon recurrent pregnancies.

Floyd, C.: Pulmonary Tuberculosis in Pregnancy. *New England J. Med.* 212:379-385, (Feb. 28) 1935.

INTRANASAL VACCINE SPRAY

The author, who is associated with the Department of Otolaryngology at the University of Chicago, reports on a study of eighty-one patients in whom he attempted immunization by means of vaccine applied locally to the nasal mucus membranes. The previous reports on prophylaxis against the common cold by subcutaneous vaccination have been disappointing. In this study which was uncontrolled by any other series of cases, he obtained good results in seventy-eight per cent, fair results in three per cent and no improvement in nineteen per cent of the cases.

Walsh, T. E.: Intranasal Vaccine Spray: Its Use for Prophylaxis Against the Common Cold. *Arch. Otolaryng.* 21:147-153 (Feb.) 1935.

THE SCHILLING HEMOGRAM IN APPENDICITIS

The writers of this article, Carlson and Wilder, of the Department of Surgery of the University of Minnesota, report a study of the Schilling hemogram in one hundred and seven patients with appendicitis. The Schilling hemogram is a method of recording the reaction of the bone marrow to infection or to toxic

stimuli. In this account the lymphocytes, monocytes, eosinophils, and basophils are listed as in the Ehrlich differential count, but the neutrophils are further classified into segmented forms, stab cells, juvenile cells and myelocytes. In infectious diseases neutrophils enter the blood stream in earlier stages of development than normally so that there is an increase in the number of stab cells and juvenile cells and even myelocytes may appear, the presence of the latter indicating a severe infection. Using this count these authors come to the conclusion that it is superior to the total leukocyte count and to the early differential count in estimating the presence or severity of an infection. They regard the Schilling hemogram as a better index of the severity of the disease than either the temperature or the pulse rate. As in other similar estimations of the blood picture, they define an increase in the number of nonsegmented neutrophils as a "shift to the left"; such a shift indicates a bad prognosis though not necessarily a fatal one.

Carlson, H. A., & Wilder, L.: The Schilling Hemogram in Appendicitis. *Arch. Surg.* 30:325-335 (Feb.) 1935.

MEDICAL ECONOMICS

Edited by Medical Economics Committee

INDIGENT MEDICAL CARE

F. L. LOVELAND, M.D.

Topeka, Kansas

Dr. Henry S. Pritchett says, "No Government can lift from the shoulders of the individual his responsibility to meet the risks of civilized life without destroying that spirit of independence and manliness which is the vital principle of a republic. The danger which faces the United States of America as well as other governments which attempt to solve the problem of individual protection through the agency of government, lies in the universal tendency wherever governmental aid is extended or governmental co-operation attempted, to unload the entire problem of support on the co-operating governmental agency. In our country and under our conceptions of freedom it is clear that these problems of social relief must be worked out by each group in the body politic with no governmental aid other than that of advice. Whenever the day comes that great

groups of citizens either in the professions or in the ranks of labor begin to lean upon the government for their protection against the hazards of life the whole character of our conception of individual freedom will have changed."

In attempting to work out a plan having to do with the care of the indigent sick within the confines of our state, your Committee on Medical Economics have found themselves to be in complete accord with the above-quoted philosophical utterance of Dr. Pritchett. It has been said that if we destroy personal responsibility we wreck individuality. Too frequently has humanitarian legislation attempted to relieve poverty with its attendant ills by substituting social responsibility for personal responsibility. We believe medical foundations to be adequate and secure; that medical super-structures erected upon these foundations have withstood the test of time and that today the American people are receiving the best medical attention obtainable in the world; we also believe, economically speaking, that additional building upon these foundations must provide against the recurrence of present-day miseries and guarantee insofar as it is humanly possible, a degree of economic security both medical and otherwise compatible with future progress.

With particular reference to the care of direct relief patients it is oft-times impossible to avoid substituting social responsibility for personal responsibility for the reason that a high percentage of this class are un-workable. Mental and physical defects have contributed to their incapacitation and the laws of our state make provision for them by making it mandatory upon our county governments to provide relief necessities for them. Since the close of the World War the number of direct relief patients has increased immensurably and our antiquated systems providing medical relief for the indigent sick have proven to be utterly inadequate to cope with present day emergencies. The plan submitted by your Committee on Medical Economics and approved by the House of Delegates at the last annual meeting of the Kansas Medical Society contemplates making our county medical societies the official unit within the county whose duty it shall be to safeguard the health of these people thereby providing for them a free choice of physician. The character of service possible under such a plan will aid in a material way in rehabilitating

at least a few of these unfortunate individuals. The county medical societies will be reimbursed for this service by the county commissioners on the basis of \$1.00 per month per direct relief family. The county medical society shall designate one of its members to serve as county health officer. Members of the county medical society shall serve as county physicians. The plan is not concerned with the ultimate division of funds paid into the treasury of the county medical society.

Your Committee has attempted to apply the above-quoted philosophy to the plan insofar as it relates itself to the care of the work relief groups classified for the period of the emergency as indigent. We are advised that this group will be placed on a graduated salary basis on or about August 1, 1935. We believe that the possibility of rehabilitating a high percentage of these workers is great. They must be encouraged to maintain themselves within the scope of their budget. They must be educated to the point of realizing that medical care for themselves and their families is of utmost importance and that if they are to have such protection they should be willing to provide for it. Under the provisions of the plan these workers would voluntarily contribute \$1.00 per month, per relief case, for medical service. This money to be paid to the county poor commissioner the first of each month thereby entitling him to receive a medical service card which properly endorsed may be presented to the physician of his choice within the county medical society further entitling him or members of his family to medical service for the month. The county commissioners would hold in trust all funds thus collected until the end of the month at which time they would be deposited in a local bank to the credit of the county medical society.

This plan is not a remedy sufficiently potent to cure all of our medical economic ills related to the care of the indigent sick. In fact, your Committee is keenly aware of many difficulties that may arise from time to time. However, we believe it to be ethically and economically sound and worthy of trial. Adjustments will have to be made to meet unusual situations arising within a given county. The appeal board consisting of two physicians and the county poor commissioner will encounter many instances of malingering on the part of patients, many calls for unnecessary service, etc., as well as some embarrassing situations brought

about by the physicians themselves, but all such problems can be solved in due time.

It is not sufficient for a few members of a county medical society to become fired with an enthusiastic desire to adopt the plan, the move must be made by the society as a whole. A spirit of co-operation is essential if the plan is to succeed. New machinery must be installed within the society to provide for funds accruing to the society as well as their ultimate distribution. Adoption of the plan means work for the county medical society. If we are unwilling to work let us not adopt the plan. If you have determined within your society that some change in the method of caring for the indigent sick is desirable, communicate with the officers of your State Society or some member of your Committee on Medical Economics and some plan suitable to your needs can be put into operation without further delay.

Representatives of the Medical Economics Committee recently attended meetings of Reno, Coffey, Washington, Osborne, Central Kansas, and Wyandotte counties for a discussion of the committee's per capita plan for indigent medical care.

In Osborne County a joint meeting was held with the county commissioners wherein an agreement was reached for the installation of that plan on August 1 for both direct relief and work-relief clients. In Coffey County a meeting with the commissioners resulted in an agreement for similar operation of the plan.

The other counties are also engaged in discussing the plan with their commissioners or are studying various phases of its applicability.

After carrying on experiments with this work in the above counties and receiving favorable results, the Committee feels encouraged to go on and put this plan into general usage. Officials in the Kansas Emergency Relief Commission have stated that they believe the plan workable and have suggested that each county medical society attempt to complete arrangements with their county commissioners in their counties. The Committee therefore believes, that most prerequisites have been completed for the presentation of the plan and intends in the near future to forward bulletins to the county society officials outlining all details, a suggested contract, and methods that might be used for its installation.

Inter-scholastic debate authorities have selected the question "Shall America Have Socialized Medicine and Health Insurance" as the official question to be debated during the ensuing year. This will mean that most Kansas high schools, and colleges will, on approximately September 1, commence study and preparation of material for and against this question. The Medical Economics Committee intends to recommend to the Council that the central office assemble and forward to all debate coaches in the state pamphlets and information showing the many fallacies resulting to the public from compulsory forms of health insurance and state medicine. The Committee also intends to recommend to individual members that they offer to assist students in analyzing this material and in preparation of lectures.

One of the most interesting announcements made at the recent American Medical Association House of Delegates meeting in Atlantic City pertained to the fact that the American College of Surgeons had adopted the platform on the subject of health insurance advocated by A.M.A. and that henceforth it intended to coincide its views with that organization. It was stated that additional study on the part of the committees of the American College of Surgeons had found the platform more sound in principle than their present one.

Study has been commenced by the Medical Economics Committee on problems involved in semi-indigent care, credits, and collections which it believes are even of more importance than those presented in indigent medical care. As soon as the developments are under way toward handling the indigent situation, it proposes to spend a greater proportion of its time in this field, and hopes to present systems and methods wherein present difficulties along this line can be minimized.

President's Page
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cian and affect his economic life that it matters not how the economist may classify him or theorize as to his income, each must work out his own salvation. And whatever measure of success we achieve must be through and by our own efforts.

J. F. HASSIG, M.D.

Anaphylactic Shock from the Use of Pituitrin
(Continued from Page 323)

few days later she was deliberately given one-fifth cc. of pituitrin which in a few minutes produced the same symptoms though to a lesser degree of severity and was relieved by one-fourth cc. of 1-1000 adrenalin hypodermically. Of this experience the patient stated her sensations were the same as the two former ones.

James Hasson, in the British Medical Journal, February 8, 1930, reports a similar reaction, though the drug was given in a case of lupus erythematosus with impairment of the pituitary gland.

Dr. Frank A. Simon in the Journal of the American Medical Association of March 23, 1935, reports a similar reaction in an obstetrical case.

In our case the reaction was sudden and severe. We did not have the opportunity to take blood pressure readings or to give intravenous treatment. The adrenalin was at hand and was used with, apparently, very prompt and satisfactory results.

NEWS NOTES

THE BRINKLEY DECISION

An official copy has recently been received of the opinion handed down by Judge Tillman D. Johnson in the United States District Court case of John R. Brinkley versus J. F. Hassig, et al. Although the complete text of the decision, in favor of the Board of Medical Examination and Registration, would be of interest, space does not permit a verbatim reproduction of its thirty-two single spaced typewritten pages and thus the following summary has been prepared:

Brinkley, as plaintiff, had asked that "the court decree the statute described in this petition to be void and invalid and that the order of the Board of Medical Examination and Registration, acting under color of said statute revoking plaintiff's license to practice medicine and surgery described herein be declared null and void, and that the proceeding and order of said Board be decreed and adjudged as without due process of law, arbitrary, oppressive and prejudiced, and void, and that defendants be permanently enjoined from seeking to enforce the order of the Board."

History of the action is cited as follows: "John R. Brinkley on the 15th day of February, 1916, was granted a license to practice medicine in the State of Kansas. On the 28th day of April, 1930, written charges signed by Dr. L. F. Barney of Kansas City, Kansas, against Dr. Brinkley, were filed with the State Board of Medical Examination and Registration charging him with divers offenses and praying the revocation of the license to prac-

tice medicine in the State of Kansas granted him on the 15th day of February, 1916. On May 7, 1930, Dr. Brinkley commenced an action in the District Court of Shawnee County, Kansas, to enjoin the Board of Medical Examination and Registration from hearing the charges against him filed with the Board. The district court sustained the demurrer of the Board to his complaint, and Dr. Brinkley appealed the case to the Supreme Court. That court affirmed the judgment of the district court on June 13, 1930. On July 15, 1930, the hearing of the charges by the Board was commenced and evidence introduced by the respective parties."

Following this an account was given of the action of the Board on September 17, 1930, in cancelling Brinkley's license upon grounds of gross immorality and unprofessional conduct, and of Brinkley's appeal to the United States District Court.

Judge Johnson, in considering Brinkley's contention that authority extended to the Board by the Medical Practice Act impaired his rights of due process of law under the 14th Amendment to the Constitution of the United States, then considers the opinion of the Kansas Supreme Court in the same case. After discussion of that opinion, he states "This Court is not bound, in my opinion, by that decision in respect to objections on constitutional grounds to the validity of the statute. I conceive the opinion of that court to be entitled to fair consideration in determining that question. After such consideration I feel fully justified in adopting the language of the opinion that: 'When the statute is interpreted in the manner indicated, it does not deprive a license against whom complaint is made of due process of law,' within the meaning of the 14th Amendment."

The second ground urged by Brinkley was that the Board acted "arbitrary, capriciously, and oppressively." Of this, Judge Johnson says, "This statement, if true, unquestionably entitles the plaintiff to the relief prayed for. Alleged arbitrary, capricious, and oppressive actions by the Board are stated and discussed in the council's brief. The consideration of these matters will be greatly limited, I believe, by a re-statement at this time of the viewpoint of the court given expression at the trial to the effect that the charges contained in this complaint filed before the Board—if not when formulated and incorporated in the complaint make weights or background—became such in the progress of the hearing before the Board. These charges relate to alleged offenses, the earliest in 1916, the latest in 1925. Except for the matters alleged in charges 9, 10, 11 the complaint filed with the Board on April 28, 1930, would never have been filed at all. Charges 9, 10, 11 were the charges stressed at the hearing before the Board and at the trial before this court, and I have no doubt it was in respect to these that the Board found Dr. Brinkley 'has been and is guilty of gross immorality', and has been and is guilty of unprofessional conduct."

Charge 9 is then described as applying to Brinkley's alleged compound operation, his two phase operation, and his four phase operation; to the Board's disbelief of their benefit; and to the exorbitant fees charged therefor.

In commenting on this charge, Judge Johnson says: "For convenience in reference I shall hereafter refer to operation designated, compound operation, as A, the second phase as B, and the fourth phase as C. From these definitions are learned that in each of the three

operations described, Dr. Brinkley injects into the 'seminal vesicles' through the 'vas deferens' a mercurochrome solution' for its germicidal properties'. The medical men testifying against Dr. Brinkley did not, I believe, criticize the manner of injection of the mercurochrome solution or its possible antiseptic value. The second step of A is the third step of C. It consists in 'taking a portion of muscle or fascial tissue in the scrotum containing an artery and a nerve and suturing it into the epididymis or in the testicle'. This operation was criticised and declared by medical men, both in the hearing before the Board and at the trial of this suit, as without value—even if the suturing of the muscle of the scrotum to the testicle was successful. Step 3 of A and step 4 of C are the same and consist in 'implanting the gland tissue underneath the covering of the epididymis or in the testicle.' This operation was criticised and declared by medical men testifying against Dr. Brinkley before the Board and in this court to be without any value whatever. The second step of B is also the second step of C and consists of: 'The removal of the vas deferens, the tube which runs from the testicle up to the seminal vesicles and continues until it joins with the urethra, taking out as many inches of it as can be done'. As a means of producing sterility, I believe, was not a subject of criticism by the medical men testifying against Dr. Brinkley either before the Board or at the trial of this suit. Council for the plaintiff in their brief quote statements from various medical books in evidence before the Board supporting the contentions of Dr. Brinkley and indicating the belief of the authors in their value and thus justifying the practice of Dr. Brinkley in their performance. It appears from the statement of Dr. Brinkley given before the Board that the primary purpose of all his operations was the reduction of the enlargement of the prostate gland, an ailment apparently quite common with middle aged and elderly men. He enumerated and claimed other benefits resulting incidentally it seems from these operations and the resulting improvement in the prostate gland. There was an irreconcilable conflict in the evidence given by the prosecution and by Dr. Brinkley respecting the value of any of these several operations performed by him. It was not, of course, within the power of the Board, though disagreeing with Dr. Brinkley and his witnesses and other evidence produced by him tending to support his contention, to remake his license because of such disagreement. A mere difference of opinion respecting the value of any or all of the operations performed by Dr. Brinkley in his practice, no matter how decidedly held or maintained by the members of the Board, would not in my opinion justify the revocation of his license to practice medicine in the state, and had Dr. Brinkley confined himself in his practice to the usual methods of reputable physicians, no charges probably would have been filed against him."

Stenographic account of Brinkley's radio talks, and samples of his mail advertising are then listed as the basis for charges 10 and 11, about which the court further states: "It is I think perfectly apparent from these quotations that Dr. Brinkley made the practice of medicine a business, adopting the usual present day methods of propaganda by the use of the mail and the radio for its development and extension. These methods are not only in conflict with the ethics of the profession but are in my opinion in conflict with the best interests of the public and that irrespective of the value of the operation

performed by him at the hospital for the amelioration of the prostate gland or of the benefits to individuals using prescriptions given through radio broadcasting, the possibilities of injury to the general public resulting from such methods are so apparent if such practice became general and usual that its mere statement is, I think, sufficient. I think under the general terms of the statute the Board is empowered to protect the public against conduct which is clearly against public interest and therefore necessarily unprofessional, the same as if the legislature had specifically denounced and prohibited such practice and that members of the Board were not disqualified because they knew of his methods prior to the hearing and condemned them. Dr. Brinkley's methods were so notorious that ignorance of them by the Board was an impossibility. As I view it such knowledge compelled condemnation."

"Council for defendants will prepare findings and form of decree in conformity herewith, and after service upon opposing council, file the same with the clerk of the court."

PWA HOSPITAL PROJECTS

Several inquiries have been received as to the opportunities for construction of hospitals through assistance of Public Works Administration funds. The following information has been assembled on this subject:

Hospital projects are among those that may be approved for construction with PWA funds. Titles to the hospitals must be vested in a public body, which in Kansas usually means municipalities by reason of certain legal restrictions imposed upon counties for issuance of bonds. Mr. R. E. Lawrence, state director of the Kansas PWA, New England Building, Topeka, will furnish application forms to any interested city officials which may then be returned for approval or rejection by his office. If approved, PWA will furnish 45 per cent of the necessary construction cost, and will finance long term city bonds for the remaining 55 per cent.

NEW SOCIETIES

Two new county medical societies have been formed in the counties of Chautauqua and Pottawatomie during the past month. The societies have each started regular meetings and have elected officers to serve for the ensuing year. Officers for the Chautauqua organization are as follows: Dr. E. A. Marrs, Sedan, president; Dr. Estella Edwards, Cedarvale, vice-president; Dr. Ralph S. Casford, Sedan, secretary-treasurer. Those elected for Pottawatomie are: Dr. Benjamin J. Brunner, Wamego, president; Dr. L. W. Cazier, Wamego, secretary-treasurer.

NEW LICENSEES

The following is a list of the graduates who passed the examination in June given by the Board of Medical Examination and Registration:

REPORT OF EXAMINATION FOR LICENSES TO PRACTICE MEDICINE

Harry Oscar Anderson, Rush Medical College.
 Frank Edwin Treharne, Rush Medical College.
 Edgar Emmet Anderson, University of Nebraska.
 Burhl Babbitt Gilpin, Jr., University of Nebraska.
 Martin Joseph Rucker, University of Nebraska.
 Robert William Bobe, University of Washington.

Edwin Lyle Campbell, University of Colorado.
 Everette Lucius Cooper, Loyola University.
 Francis Clinton Shepard, Loyola University.
 Leo Kyle Crumpacker, Northwestern University.
 Lucius Elkanoh Eckles, Harvard Medical College.
 Eliot Nichols Freeman, Jr., Jefferson Medical College.

Robert Orestes Garlinghouse, University of Pennsylvania.

William Wyman Lanore, University Pennsylvania.
 Sherman Lewis Alisky, University of Kansas.
 Leonard Otho Armantrout, University of Kansas.
 Charles William Amos, University of Kansas.
 Spencer Harwood Boyd, University of Kansas.
 Murray White Ballinger, University of Kansas.
 Francis Henry Buckmaster, University of Kansas.
 Maxwell Glen Berry, University of Kansas.
 Archie William Butcher, University of Kansas.
 Harry Klinock Cohen, University of Kansas.
 Frederick Bernard Carlson, University of Kansas.
 John Alfred Dillon, Jr., University of Kansas.
 Carl Enna, University of Kansas.
 Frank Charles Eaton, University of Kansas.
 Verlyle Elson, University of Kansas.
 Ray Dayton Fraker, University of Kansas.
 Hubert Michael Floersch, University of Kansas.
 Clifford Leon Fearl, University of Kansas.
 Robert Bresette Gorman, University of Kansas.
 Abigail Hayden (F), University of Kansas.
 Tom Reid Hamilton, University of Kansas.
 David Duncan Holaday, University of Kansas.
 Calvin Wilbur Henning, University of Kansas.
 Herman Frederick Janzen, University of Kansas.
 Emory Orville King, University of Kansas.
 Stuart Dawson King, University of Kansas.
 Carl Delano Leonard, University of Kansas.
 Emilio Reyes Lucas, University of Kansas.
 Merrill E. Liston, University of Kansas.
 John Charles Lynch, Jr., University of Kansas.
 Daniel Eugene Liddy, Jr., University of Kansas.
 Maurice Vincent Laing, University of Kansas.
 Chester Emory Lee, University of Kansas.
 David Taylor Loy, University of Kansas.
 Henry Homer Loewen, University of Kansas.
 Lee Herman Leger, University of Kansas.
 Harold Bruce Melchert, University of Kansas.
 Cornelius Martin Mills, University of Kansas.
 Richard Stewart McKee, University of Kansas.
 Raymond Elias Nelson, University of Kansas.
 Ingall Howard Neas, University of Kansas.
 Frederick Keith Oehlschlager, University of Kansas.
 Robert Emil Pfuetze, University of Kansas.
 Jacob A. Pinsker, University of Kansas.
 Lowell Edwards Riller, University of Kansas.
 Kermit Jewell Ryan, University of Kansas.
 Harry Archer Rock, University of Kansas.
 Maurice Richard Richter, University of Kansas.
 Emmerich Schulte, University of Kansas.
 John Frank Stanley, University of Kansas.
 John Thomas Schnebly, University of Kansas.
 William Reginald Sullivan, University of Kansas.
 Darrel Thomas Shaw, University of Kansas.
 Alonzo Allen Towner, University of Kansas.
 Harold Scott Van Ordstrand, University of Kansas.
 Thornton Lewis Waylan, University of Kansas.
 Leo Louie Wenke, University of Kansas.
 Geo. Alvin Walker, University of Kansas.

Robert C. Winslow, University of Kansas.
 Lennel Irwood Wright, University of Kansas.
 Lucien Andrew Watkins, University of Kansas.
 Maurice Lee Woodhull, University of Kansas.
 Frederick William Waknitz, University of Kansas.
 Lewis Barrick Wilson, University of Kansas.
 Ralph Ersel White, University of Kansas.
 Esther Beatrice Winkelman (F), University of Kansas.
 Merle Lemul Whitney, University of Kansas.
 Paul Bernard Young, University of Kansas.
 Leon Ward Zimmerman, University of Kansas.
 Delphos Otto Coffman, Northwestern University.

REPORT OF LICENSES TO PRACTICE MEDICINE GRANTED BY RECIPROCITY OR BY ENDORSEMENT OF CREDENTIALS

Edgar Allen Pickens, University of Tennessee.
 Francis Ignatius Stuart, Creighton Medical College.
 Harry Clemons Lapp, Harvard Medical College.
 Earl Everet Feind, University of Nebraska.
 Rignald Gordon Morris Ehlers, Sr., University of Maryland.
 Benjamin George Dyer, Drake University.
 Karl Edwards Voldeng, State University of Iowa.
 John William Wilhoit, St. Louis University.
 Herman Christof Klicever, Rush Medical College.
 Laurence Grant Balding, University of Illinois.
 Osee May Dill (F), University of Indiana.
 Robert Manning Carr, Northwestern Medical College.
 Daniel Vincent Dougherty, Johns Hopkins Medical College.
 Raymond Allen Schwegler, University of Minnesota.
 D. Evelyn Miller (F), University of Nebraska.

MEMBERS

Dr. Fred E. Angle, Kansas City, read a paper on "Brucellosis" at the annual meeting of the American Medical Association held in Atlantic City, in June. His paper was based on his personal experience with 100 cases of the disease over a period of seven years.

Dr. C. E. Coburn, Kansas City, was elected as president of the Kansas State Board of Health at Topeka, June 28. He has been practicing in Kansas City for the past thirty-five years.

Dr. Murray Eddy, Hays, was appointed county health officer for Ellis county during the ensuing year.

Dr. Marshall Hyde, Larned, has gone to Peabody to establish a practice, after serving as a physician at the Larned State Hospital for the past year.

Dr. W. S. Lindsay, Topeka, whose article on "Epilepsy" was published in the June issue of the Journal, had the honor of having it reprinted in Southern Medicine and Surgery, the official publication of the North Carolina Medical Society.

Dr. R. R. Melton, is moving to Marion where he will establish a practice. He has been in Halstead associated with the hospital there for the past two years.

Dr. Thomas G. Orr, Kansas City, was a guest of the Minnesota State Medical Association which met in joint session with the medical section of the American Asso-

ciation for the Advancement of Science in Minneapolis June 23 to 27. Dr. Orr presented an address on "Venoclysis: A Consideration of Its Possible Dangers."

Dr. Eugene Pile has opened an office in Arkansas City. He has been practicing medicine in Kansas for fifty years and has the distinction of being one of the oldest practicing physicians in the state. He was formerly located at Ashton.

Dr. Fred E. Rogers, formerly of Kansas City, has moved to Linn where he will take over the office and practice of Dr. R. B. McVay, who is moving to Clay Center, to start practice there.

Dr. H. F. Spencer, who has just completed his internship at St. Margaret's Hospital, in Kansas City, has gone to Garnett where he will start his practice.

Dr. W. M. Tate, formerly of the Hertzler Clinic at Halstead, is now practicing in Peabody, occupying the offices of the late Dr. C. L. Appleby.

A paper on "Electrocoagulation of Tonsils," by Dr. G. F. Zerzan, Holyrood, was printed in the June issue of the Archives of Physical Therapy, X-Ray, Radium, the official journal of the American Congress of Physical Therapy.

NEW BOOKS RECEIVED

THE DOCTOR'S BILL by Dr. Hugh Cabot, Mayo Clinic. Published by the Columbia University Press. New York, at \$3.00 per copy.

SURGICAL CLINICS OF NORTH AMERICA, Chicago Number, Volume 157 Number 3, June 1935. Published by the W. B. Saunders Company, Philadelphia, at \$12.00, paper; \$16.00, cloth.

A TEXTBOOK OF CLINICAL NEUROLOGY by Dr. Israel S. Wechsler, professor of clinical neurology, Columbia University, New York. Published by the W. B. Saunders Company, Philadelphia, at \$7.00 per copy.

1000 QUESTIONS AND ANSWERS ON T. B. by Dr. Fred H. Heise, medical director, Trudeau Sanatorium. Published by the Journal of the Outdoor Life, New York, at 75c per copy.

ARTHRITIS AND RHEUMATOID CONDITIONS, Their Nature and Treatment, by Dr. Ralph Pemberton, professor of medicine in the graduate school of medicine, University of Pennsylvania. Published by Lea and Febiger, Philadelphia, at \$5.00 per copy.

OBJECTIVE AND EXPERIMENTAL PSYCHIATRY by Dr. O. Ewen Cameron, instructor in psychiatry, Johns Hopkins University. Published by the MacMillan Company, New York, at \$3.00 per copy.

MEDICINE IN THE MIDDLE AGES by Dr. David Riesman, professor of history, of medicine, and professor emeritus of clinical medicine University of Pennsylvania. Published by Paul B. Hoeber, Inc., New York, at \$5.00 per copy.

DISEASES OF THE THYROID GLAND by Dr. Arthur E. Hertzler, chief surgeon, Halstead Hospital, Halstead, Kansas. Published by the C. V. Mosby Company, St. Louis, Missouri, at \$7.50 per copy.

(Continued on Page 346)



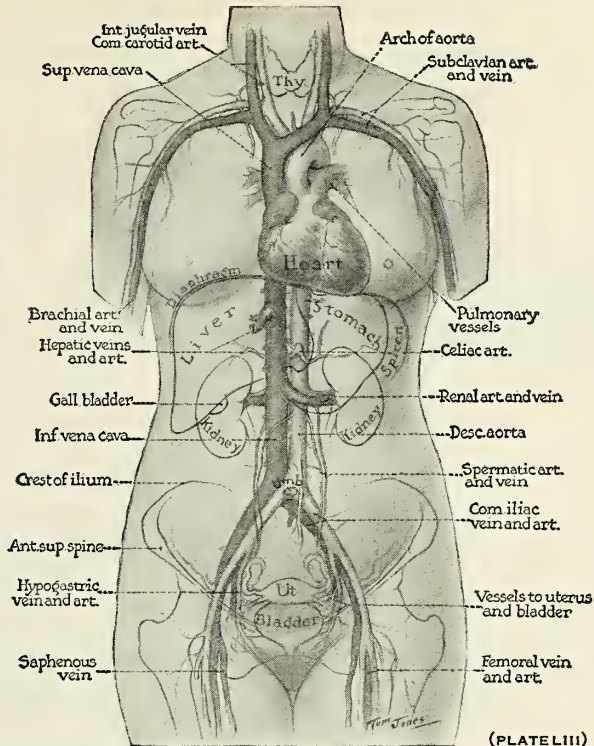
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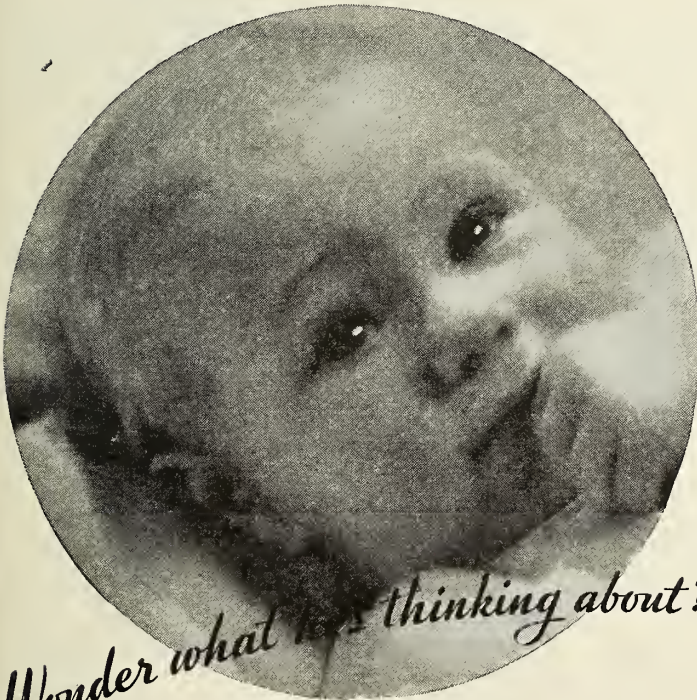
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MORBIDITY REPORT

New communicable disease cases in the state as compared with last month are reported by the Kansas State Board of Health as follows:

Disease	Month ending July 6	Month ending June 8
Measles	769	2390
Whooping cough	310	252
Mumps	269	402
Pneumonia	268	214
Scarlet Fever	116	168
German Measles	91	641
Tuberculosis	87	54
Chickenpox	84	178
Smallpox	76	116
Syphilis	75	139
Influenza	47	6
Gonorrhea	37	83
Diphtheria	25	16
Typhoid Fever	20	14
Undulant Fever	11	0
Meningitis	5	8
Erysipelas	3	10
Cancer	3	2
Encephalitis	2	6
Poliomyelitis	2	1
Vincent's angina	2	1
Tetanus	1	0
Pink-eye	0	29

DEATH NOTICES

Gustav A. Koerber, 60 years of age, died at his home in Hoisington, May 31. He was born in Germany in 1874 and received part of his education there, coming to the United States and entering the University of Nebraska in 1893. He later returned to Munich and received his diploma there. While in Munich he studied under the late Dr. Geheimrath F. von Winchel, private physician to Emperor Wilhelm II; Dr. E. W. von Behring, discoverer of the diphtheria anti-toxin, and Professor Wilhelm Konrad Roentgen, discoverer of the x-ray. Upon his return to the United States he became a professor at the University of Nebraska, later moving to Russell, where he stayed seventeen years, then went to Hoisington, where he practiced until his death. He was a member of the Barton County Medical Society.

MALINGERING

The State Board of Administration has made public a report concerning its investigation of the recent penitentiary mutiny at Lansing. Of interest to physicians is that part of the report which deals with the demand of convicts for "more adequate medical attention."

The statement is made that all phases of the prison medical service have been carefully investigated, and that prisoners were interviewed for evidence of instances wherein necessary treatment had been refused, or wherein treatment had been negligently administered. The Board concluded that no such instances could be found, that the present service is adequate in every detail, and that complaints were based upon restrictions which were

reasonably imposed by reason convicts had devised methods of feigning illness to escape work.

COUNTY SOCIETIES

The Brown County Medical Society held a dinner meeting in Hiawatha on June 28 with the newly organized Northeast Kansas Dental Association. After dinner the medical-dental societies met for a business and scientific meeting and Dr. C. L. Hustead, Falls City, discussed "The Management of Post-operation Complications." Mr. A. L. Peterson, Topeka, spoke on "Medical-Dental Jurisprudence." The next meeting was held on July 18 at Lake Hiawatha, and was the annual picnic of the societies. All doctors and dentists of Nemaha, Brown, Doniphan counties of Kansas, and Richardson county, Nebraska, were invited and golf matches for both the doctors and their wives were arranged.

Members of the Butler-Greenwood County Medical Society held a dinner meeting in El Dorado on June 21 with Dr. R. M. Brian, El Dorado, as the principal speaker. His paper was titled "Encephalitis Lethargica, its Complications and Sequelae." Dr. R. B. Earp, El Dorado and Dr. Samuel Mallison, Augusta, also gave short talks.

Discussion of medical care for the indigent poor was the principal topic at a meeting of members of the Coffey County Medical Society and the county commissioners on June 27 in Burlington. Dr. F. L. Loveland, Topeka, and Clarence G. Munns, Topeka, were speakers.

Dr. R. L. Ferguson, Arkansas City, conducted the meeting of the Cowley County Medical Society in a discussion of "Medical Care of the Indigent," on June 20, in Arkansas City.

Twenty doctors were present at the meeting of the Crawford County Medical Society in Pittsburg on June 27 to hear Dr. Riletta Fritz speak on "Dementia Praecox."

The Dickinson County Medical Society held a dinner meeting in Hope on July 18 with papers by Dr. L. G. Heins and Dr. Theodore Kroesch as the principal speakers. Dr. Heins' paper was on "Diseases of the Coronary Arteries" and Dr. Kroesch's on "State Medicine." A committee was appointed on economics to cooperate with the state committee and included Drs. S. N. Chaffee, Heins and Kroesch.

At a meeting of representatives of the Central Kansas counties in Hays on July 10, application of the Medical Economics Committee's plan for indigent care in those counties was discussed.

Members of the Golden Belt Medical Society held their regular quarterly meeting in Manhattan on July 11. The program began at three o'clock in the afternoon with a skin clinic conducted by Dr. Ernest H. Decker, Topeka. Following this Dr. W. M. Reitzel, Manhattan, gave a talk on "Bladder Neck Obstructions;" Dr. Raymond Gelvin, Concordia, talked on "Transurethral Prostatectomy Its Progress and Possibilities;" Dr. Ray M. Balyeat, Oklahoma City, gave a paper on "The Therapeutic Value of the Intratracheal Use of Iodized Oil in the Treatment

(Continued on Page 348)

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of Intractable Asthma;" "Diagnosis and Treatment of Infections of the Hand" by Dr. Allen B. Kanavel, Chicago.

The Labette County Medical Society were guests of the Mercy Hospital staff in Parsons, on July 10 for a dinner and an inspection of the new x-ray plant recently installed in that hospital.

Dr. L. Phares, Wichita, was the guest speaker at a meeting of the Pratt County Medical Society on June 29 in Pratt. His paper was on "Gastric and Duodenal Ulcers."

Dr. F. L. Loveland, Topeka, and Clarence G. Munns, Topeka, led the discussion on medical care of the indigent at a meeting of the Osborne County Medical Society on July 7 in Osborne.

The Reno County Medical Society held a dinner meeting on July 18 in Hutchinson with Dr. F. L. Loveland and Clarence G. Munns, Topeka, as guest speakers on the subject of care of the indigent.

Members of the Rush-Ness County Medical Society held a joint meeting with the Rush-Ness Public Health Council in Ness City on June 25. Dr. Murray Eddy, Hays, read a paper on "Intestinal Obstruction;" Mrs. D. D. Hunt, registered pharmacist, McCracken, talked on cooperation between druggists and physicians. Mrs. Louis Ficken, R. N., Bison, gave a talk on "Public Health Nursing;" and Dr. L. A. Latimer, reported on the state meeting.

Dr. John Sherman, Chanute, was elected president of the Southeast Kansas Medical Society at a meeting held in Pittsburg in June. Dr. O. E. Stevenson, Oswego, was elected vice-president.

Members of the Washington County Medical Society held a meeting on July 9 in Washington, for the purpose of discussing the care of the indigent. Dr. F. L. Loveland, Topeka, and Clarence G. Munns, Topeka, as representatives of the Medical Economics Committee, led the discussion.

The Tri-County Medical Society, which includes Barber, Harper and Kingman counties, held a regular quarterly meeting at Kingman on July 12. Dr. A. R. Hatcher, Wellington, gave a paper on "Appendicitis," and Dr. Fred J. McEwen, Wichita, gave a paper on "Irregular Heart." Motion pictures were shown through the courtesy of the Meade Johnson Company by Mr. William J. Wyly, their Kansas City representative.

AUXILIARY

Members of the Brown County Medical Auxiliary held a meeting June 28 in Hiawatha, following the dinner with the medical society. Mrs. J. R. Heryford, president, handed in her resignation and Mrs. Gordon Emery, vice-president, was elected to fill the vacancy. Mrs. E. K. Lawrence, gave a talk on girl scouts.

The Sedgwick County Medical Auxiliary held their last meeting for the summer on June 24 in Wichita. The members were entertained with a luncheon and officers for the coming year were installed. The new officers are: Mrs. Norris Rainey, president; Mrs. George Cowles, vice-president; Mrs. C. T. Hinshaw, secretary; Mrs. W. T. Elnen, treasurer; Mrs. Charles Rombold, corresponding secretary. Mrs. M. O. Nyberg, state president, gave a report of the National Medical Auxiliary meeting in Atlantic City.

THE 1936 STATE MEETING

As described below, the Council at its meeting in Topeka, on July 28, decided that the Kansas Medical Society should not hold a scientific meeting in 1936.

This decision was occasioned by reason the Kansas meeting had been set for May 6-8 and as the meeting of the American Medical Association at Kansas City, Missouri, will be held on May 11-15. It was believed that many members would not find it possible to attend two meetings, even though the Kansas meeting was held at an earlier date, and that therefore full support should be given to the A.M.A. meetings.

Meetings of the House of Delegates, and the Council, for business purposes, will likely be held in Kansas City, Kansas, at sometime during the above meeting.

COUNCIL MEETING

A special meeting of the Council was held at the Hotel Jayhawk, Topeka, on July 28.

Members present were: Dr. J. F. Hassig, Dr. H. L. Snyder, Dr. L. D. Johnson, Dr. H. L. Chambers, Dr. Geo. M. Gray, Dr. C. C. Stillman, Dr. Henry N. Tihen, Dr. A. C. Armitage, Dr. C. D. Blake, Dr. L. F. Barney, Dr. Walter Stephenson, Dr. Marion Trueheart, Dr. R. T. Nichols, Dr. J. L. Lattimore, Dr. Alfred O'Donnell, Dr. F. L. Loveland, Dr. R. B. Stewart, Dr. Lucien Pyle, Dr. J. D. Scott, Dr. O. P. Davis, and Dr. W. F. Bowen.

The following report of the Executive Secretary was read and approved:

"To the Officers and Councilors of the Kansas Medical Society:

The following report attempts to present, in brief form, certain activities since the state meeting:

I. Attendance at the A. M. A. meeting: In accordance with the approval of the Council, the Executive Secretary attended the meeting of the American Medical Association at Atlantic City, N. J., on June 10-15. The opportunity was much appreciated, and is believed to have been of assistance. All sessions of the House of Delegates, several general and section meetings, and a conference of state and county secretaries were attended; all scientific and commercial exhibits were viewed; an effort was made to note functions that might be applicable to Kansas meetings; information was exchanged with the representatives of other societies, and considerable data was obtained from the House of Delegates meetings.

We would also like to report that the success in securing the next A. M. A. meeting at Kansas City was in no small way due to the efforts of Dr. Hassig, Dr. Barney and Dr. Bowen. All three spent the greater portion of their time in this interest, and were likewise responsible for having the Kansas Medical Society designated as a co-host.

II. Medical Economics: A considerable amount of our time, since the state meeting, has been devoted to activities of the Medical Economics Committee. While enroute to the A. M. A. meeting, we held a conference, as authorized by that committee, with Dr. C. E. Waller, Medical Director of FERA, in Washington, on the subject of indigent medical care. We have accompanied Dr. Loveland on trips to Coffey, Osborne, Washington, Reno, Wyandotte, and Central Kansas counties for meetings on

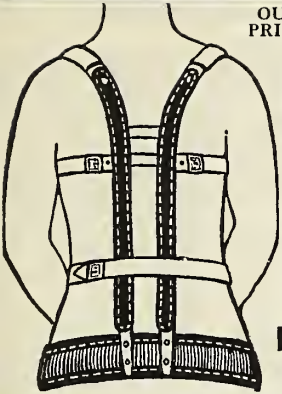
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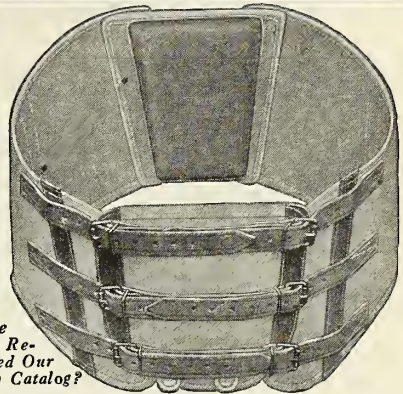
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the same subject. Some time has been spent in preparing contracts, and in assembling other indigent data. Information has been secured concerning the provisions of the Federal Social Security Act. Also, since the Committee intends soon to commence study on credits and collections and semi-indigent plans, we are at present building files on those subjects.

III. County Society Organization: Names and addresses of physicians residing in counties not chartered as county medical societies, and requests for suggested procedure as to organization of societies or appointment of official representatives have been forwarded to all councilors. To date, new societies have been organized in Chautauqua and Pottowatomie counties, and suggestions are being received for desired activity in the remaining counties.

IV. Membership Campaign: A list has been prepared of 86 licensed non-member physicians in non-chartered counties, and 602 licensed non-member physicians in chartered counties. Dr. Chambers has in mind determining from county secretaries which of these are eligible and desired for membership, and utilizing personal letters to induce their interest in the Society. There are, also, approximately 75 non-members, within this list, who are thought to be eligible for honorary membership, and it is believed that necessary arrangements may be made when their names are called to the attention of the county societies.

V. Legislation: It seems probable that a special term of the Legislature will be called early in September. Indications are favorable that an old age pension law will be passed in that session, and we are thus making investigations as to how several medical problems, involved in these laws, can best be handled. There is also assurance that several portions of the Social Security Act will be introduced, and these will likely present difficulties. We have prepared, and forwarded to the Legislative Committee for consideration of introduction in that term, a bill which would substitute the remedy of injunction against violators of the Medical Practice Act for the present provision of trial by jury.

VI. The Journal: Journal funds to and including the July issue, with all bills paid, stand at \$575.08 as against \$475.50 shown under date of May 1, 1935. An advertising campaign, wherein two solicitors and direct mail efforts are being used, is now underway, and it is hoped that same will enable the Editorial Board to finance several additions they have in mind. In September, an offer of subscriptions will be made to Kansas University Medical students at an approximately cost price of 50 cents per year. The Journal has recently been placed under a voucher system, and funds are now expended only upon recommendation of the Editorial Board and approved by the President, Secretary and Treasurer.

VII. News Releases: A considerable amount of public health and educational material has been obtained which will be available to Kansas newspapers in the near future as weekly news releases. Approval of this project has been secured from the Kansas Editorial Association.

- VIII. State Meeting Obligations: A voucher in the amount of \$600.00 as approved by the Council, was requested by and forwarded to Saline County Medical Society. We are told that an itemized expense statement will be available within the next few weeks.

IX. Budget: Dr. Geo. M. Gray has suggested that we prepare a detailed budget to govern expenses of the Society during the remainder of the year. This will be attended to at our earliest opportunity.

X. Present Membership: The present total is 1393 as against 1285 shown at the state meeting. We estimate that this may be raised to 1475 or 1500 by the end of the year. The June issue of the Journal, and a personal letter from Dr. Chambers urging continuation of membership, were sent to each delinquent member on June 10. Effective with the July issue, the Journal was forwarded only to paid members.

XI. Finances: The following statement affords a financial report for the first fiscal quarter of May, June, and July:

A. Estimated Income Allocated for this Quarter.	
1/4 of the annual dues of 1450 members	\$3625.00
1/4 of the annual miscellaneous income	100.00

Total	\$3725.00
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B. Actual Usual Expense for this Quarter.	
Salaries	\$1230.00
Rent	105.00
Telephone and Telegraph	117.22
Postage	60.12
Envelopes and Letterheads	72.25
Stationery and Supplies	62.02
Traveling Expense	76.72
Miscellaneous	27.00

Total	\$1750.33	\$1750.33
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Excess of Income over Usual Expense in this Quarter	\$1974.67
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C. Actual Unusual Expense for this Quarter	
State Meeting	\$ 675.25
A. M. A. Meeting Traveling Expense	372.28
Electric Fans	16.50

	\$1064.03	\$1064.03
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Excess of Income over Usual and Unusual Expense in this Quarter	\$ 910.64
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In conclusion, we would like to again state our desire for criticism and suggestions, particularly as to things we should be doing that we are not, and as to errors of judgment in budgeting our time.

Respectfully submitted,

CLARENCE G. MUNNS."

Dr. F. L. Loveland, Chairman of the Medical Economics Committee, presented information on the Committee's Medical Service Plan for care of the indigent; the Social Security Act, as passed by Congress; on state medicine debates to be held by Kansas colleges and public schools; and on a recommendation by the Committee that all county medical societies be incorporated. Decision was that the Committee should proceed with installation of its indigent plan; that additional study should be made of the Social Security Act; that material in opposition to state medicine should be made available to debate teams, and that the central office should proceed with arrange-

(Continued on Page 352)

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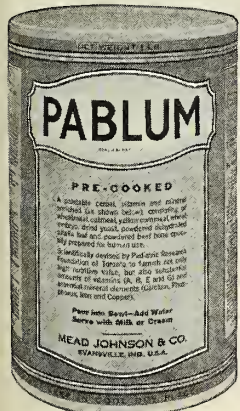
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	%	%	%	%	%	%	
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Iron-----	0.03	0.0038	0.0008	0.0009	0.00024	0.003	
Phosphorus---	0.620	0.392	0.125	0.093	0.093	0.180	
Copper-----	0.0013	0.0005	0.00017	0.00034	0.000015	0.00023	
Vitamin A-----	+	— to +	—	— to +	+	+	
Vitamin B(B.)	+	+	— to +	+	+	+	
Vitamin C-----	—*	—*	—*	—*	—*	—*	These figures are included to illustrate ordinary nutritional values. Calories, carbohydrates, fats, and proteins constitute a less serious nutritional problem.
Vitamin D-----	—**	—**	—**	—**	—**	—**	
Vitamin E-----	+	+	—	—	+	+	
Vitamin G-----	+	+	— to +	+	+	+	
Moisture-----	7.0	8.0	10.9	35.3	87.0	73.7	
Protein-----	15.0	15.2	11.0	9.2	3.3	13.4	
Fat-----	3.0	7.3	1.4	1.3	4.0	10.5	
Carbohydrate	70.8	66.2	76.3	53.1	5.0	—	
Calories per oz.	106	110	103	74	20	42	
Alkaline Reaction	✓				✓		

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ments for securing non-profit charters for the county societies.

Following discussion, a motion was made and carried that due to the proximity of the A. M. A. meeting in Kansas City, Missouri, on May 11-15, the Kansas Medical Society should not hold a 1936 scientific session. That meetings of the House of Delegates and the Council, for business purposes should be held at sometime during the A. M. A. meeting.

Dr. H. L. Chambers, Secretary, asked the Council for a ruling as to whether pro-rata amounts of dues should be offered to new members who make application for membership during the latter part of the year. Accounting and other difficulties were believed to make this impossible. Dr. Chambers, also outlined a proposed campaign for additional membership which was approved.

Suggestion was made that a basic science proposal be drafted for consideration of the Council at its mid-winter meeting, and for subsequent distribution to members and lay groups.

The Executive Secretary was authorized to attempt to overcome several obstacles concerning institution of a news release project.

Several suggestions were made to the Committee on Constitutional Revision for addition to its proposed new Constitution and By-Laws.

A charter was approved for Pottawatomie County Medical Society, and Chautauqua Countys dormant charter was confirmed.

MALPRACTICE SUITS

Data on 35,000 suits, furnished by various physicians and liability companies, was analyzed by Drs. H. G. Stetson and J. E. Moran of Greenfield, Mass., and their findings published in the New England Journal of Medicine. The causes of these suits, as determined by their analysis, were, in the order of importance:

1. Inopportune remarks by subsequent attending physicians.
2. Personal enmity and jealousy between members of the profession.
3. Counter suits interposed as a defense against the suit brought by a doctor for the purpose of collecting his fee.
4. Failure to use the x-ray in the diagnosis and reduction of fractures.
5. Outside causes, such as newspaper articles.
6. Negligence of the nurse employed by the physician.
7. Alcoholism.
8. Failure to use a method of treatment which is used by the majority or a respectable minority.

Sixty per cent of the 35,000 suits resulted from inopportune remarks of brother physicians, or to personal grudges; therefore, all of us should use discretion when making remarks concerning the handling of a case. A good question to ask yourself is: Am I fully informed as to all circumstances connected with this case; a good

thought is the commandment: "Neither shalt thou bear false witness against thy neighbor."

Since 1920 the Medical Association of Georgia has employed general counsel to aid its members in the defense of malpractice suits. The sum of the amounts sued for has often exceeded \$300,000 a year and while the Association has been most successful in defending these suits, new suits will be filed from time to time. It is the duty of every member to cooperate to the end that medical defense in Georgia will be a rare event.—Journal of Medical Association of Georgia, July, 1935.

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THE RELATIONSHIPS BETWEEN THE ENDOCRINE SYSTEM AND THE PERSONALITY

WILLIAM C. MENNINGER, M.D.*
Topeka, Kansas

In an attempt to establish definite relationships between the endocrine system and the personality we are confronted with three major unknowns. First, our knowledge of the specific influences of the various endocrine glands and their inter-relationships is inadequate. Except in the advanced stages of diseases of these glands we know little of their influence on the personality and their inter-relationships are extremely complicated, e. g., the pituitary with at least fifteen hormones, pancreatropic, thyreotropic, oxytocic, fat, adrenotropic, etc.¹ The second unknown is the extent of the influence the personality may have on the vegetative and sympathetic nervous systems, and consequently on the endocrine glands. Although some recent work has indicated the tremendous importance of psychologic factors in gastro-intestinal disorders, (² and see references therein), as yet with the exception of the thyroid disorders there have been no satisfying investigations reported of how the deeper strata of the personality (the unconscious) can affect these systems. The third great unknown is the important x-factor of constitution which certainly plays an important role in determining the psychic as well as the endocrine picture. In feeble-mindedness (a condition associated with a typically degenerative type of constitution) 21.1 per cent of cases show clinical evidence of glandular difficulties³ and seventy-five per cent show postmortem evidence of glandular changes.⁴

There are, however, even further difficulties to beset the path of our understanding and lead some physicians to be satisfied to label as "endocrine" any case showing a few stigmas without even attempting to delineate the glands involved. The number of pluriglandular syndromes is apparently legion, and it is often impossible to determine whether a specific symptom is due to one or another gland. The reports of treatment are extremely confusing: Treatment of a group of schizophrenic patients with the same gland is reported by one set of observers⁵ as being universally effective and by another group as having little or no effect. There are relatively few large series of cases thus treated which have been conservatively evaluated.⁶

A final difficulty is the personal equation factor—the endocrinologist tends to see the symptoms as endocrinogenic and the psychiatrist, as psychogenic. Too often through failure to see the process as a total organism reaction there is a tendency to separate the mind and the body, the personality and the glands, and so chase the futile merry-go-round of establishing a direct cause and effect.

ESTABLISHED GENERAL RELATIONSHIPS

Possibly without exception all severe endocrine disorders do produce deviations in the personality. It is equally true, however, that there is no consistency in the type of the mental picture which is associated with any specific endocrine picture; (possible exceptions are cretinism and preadolescent castration in the male). The major changes are well presented in popular form by Hoskins⁷ in his "The Tides of Life," and Berman⁸ in "The Glands Regulating Personality." Stockard⁹ presents a slightly different approach which is shown in the cross-breeding of various types of dogs in his "The Physical Basis of Personality." Other than textbooks on endocrinology two treatises

*From the Menninger Clinic and Sanitarium, Topeka, Kansas. Read at the Post-Graduate Course in Neuropsychiatry on April 18, 1935, and the Southeast Kansas Medical Society, Pittsburg, Kansas, June 12, 1935.

^{10, 11} have been published which deal directly with the effect of the endocrine system on the personality.

It is equally probable that all severe (and possibly even mild) psychologic disturbances produce endocrine deviations; this is suggested by clinical, metabolic, and pathologic studies of patients with mental disorders. From clinical study Rowe and Pollock¹² found that seventy-six per cent of 250 patients with mild mental disorder show some conspicuous endocrine defect. The metabolism in mental disorder has been shown repeatedly to be disturbed directly in relation to the mental state.^{13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23} The basal metabolic rate is approximately ten per cent below normal in schizophrenia, usually increased in excited states and decreased in depressions. The calcium metabolism is often disturbed²⁴ and disturbances in carbohydrate metabolism have often been reported.^{25, 26, 27, 28, 29} Usually there is a delay in the utilization of the ingested carbohydrates and a tendency for a lowered blood sugar-renal threshold. Pathologic studies of the endocrine glands in mental disorder have revealed no consistent though very frequent changes in the glands, even in the absence of physical (clinical) signs.³⁰ Pathologic changes have been noted in the testicles^{31, 32} and in the pituitary glands in the great majority of cases.³³

APPROACH TO THE PROBLEM

For the sake of simplicity and in part also because of the present state of ignorance of interglandular relationships, only monoglandular syndromes are here reviewed. Three relationships are considered: (1) Cases primarily endocrine (i. e., at their onset), and secondarily developing mental symptoms due either to over- or underactivity of the gland, or to associated emotional responses to physical alterations attributable to the glandular disease; (2) cases primarily psychiatric (i. e., the mental symptoms predominate at the onset of the illness) with a subsequent development of endocrine disorder; (3) cases in which there is a concomitant development of personality and endocrine disorders.

PITUITARY DISORDERS

In 1928 Menninger³⁴ concluded from a study of forty-two cases that there was no uniformity of association of a particular mental picture with any type of pituitary disorder.

Primarily Endocrine Pictures: The three

more common clinical pictures of underactivity of the pituitary gland are: pre-adolescent adiposogenital dystrophy; a post-adolescent hypofunction (chiefly posterior lobe deficiency); and infantilism (anterior lobe deficiency). In pre-adolescent adiposogenital dystrophy the most common mental picture is that of intellectual retardation of varying degrees, and often conduct disorder.^{35, 36, 37, 38} Such individuals are usually dull, slow and irritable.

Case 1. Female aged sixteen. The patient did not begin to walk or talk until two and one-half years of age; she was the oldest of four children and the only one to show either mental or pituitary abnormalities. The intellectual retardation was noted in her fifth year; she entered school at age seven but even with application apparently did not learn anything. She was quiet and obedient but would whine and complain. She was promoted each year although she never did passing work in any subject. Her mental age was eight years; I. Q. 50. She was five feet two inches tall and weighed 144 pounds, thirty pounds overweight. She was awkward in her movements and had a fine tremor. The blood cytology was normal, and the Wassermann reaction negative. The urine was normal. The diagnoses made were hypophrenia and adiposogenital dystrophy.

Occasionally a precocious intellectual development is associated with adiposogenital dystrophy.^{33, 39}

Occasionally an individual with adiposogenital dystrophy continues through life with an inadequate function of the posterior lobe. More frequently the cases of hypofunction appear in the second and third decades, and often the associated mental symptoms are schizoid or even schizophrenic in nature. These facts are well illustrated in the following case summaries (and illustrations showing the pituitary disturbances).

Case 2. No. 1669. Male aged thirty-six. There was a normal developmental history except that the testicles were undeveloped. Between the ages of thirty-three and thirty-six the patient was arrested four times for holding stolen goods and for writing bad checks. He had recurrent somnolent episodes of thirty-six hours duration. He compulsively took long auto trips "to get the air." X-ray examination showed a small sella turcica. The patient's weight increased from 130 pounds to 254 pounds. A mental diagnosis of Schizophrenia was made.

Case 3. No. 2385. Male aged thirty-eight. Height five feet six inches. The patient's weight at age fifteen was 155 pounds; it had increased up to 212 pounds at the time of examination. At age thirty-two he developed the delusion that he had cobras inside of him and that he was being poisoned. He began to sleep ten hours and more at night. He developed severe headaches which lasted two or three weeks, at intervals of about six weeks. He complained of "black spells" and expressed delusional material which made a diagnosis of Schizophrenia unquestionable.

Case 4. No. 4488. Female aged forty-two. A diagnosis was made of mental deficiency with ques-



Case 2. No. 1669. Adiposo-Genital Dystrophy in Adult

tionable psychosis. The patient had acted "queer" since the age of twenty-two. She began gaining weight at age twenty-four at which time also she threatened her husband's life. She slept from ten to thirteen hours nightly. The patient had sick headaches twice a month. She had small hands and a small head. Her weight was $272\frac{1}{2}$ pounds.

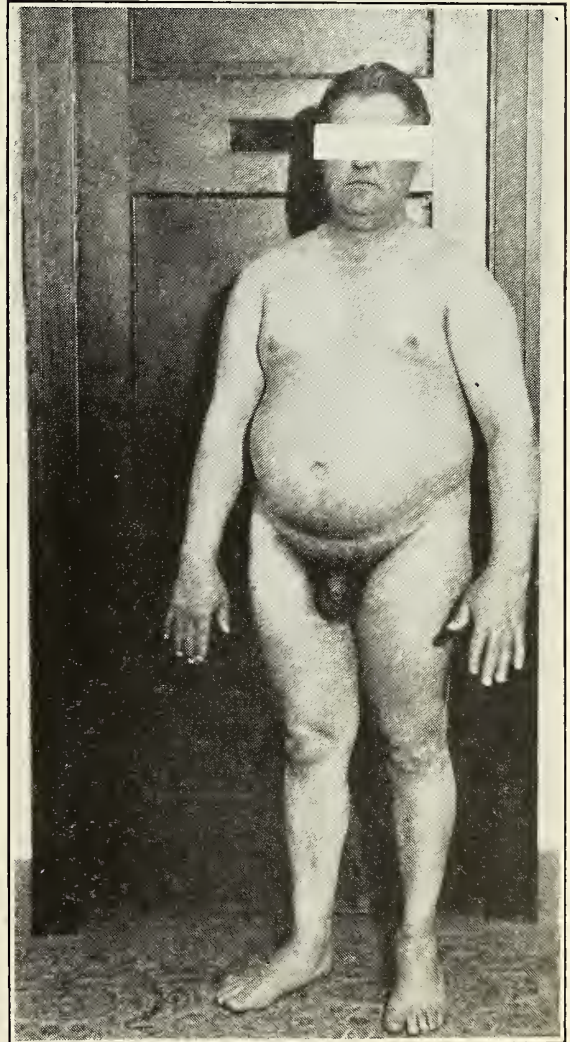
Case 5. No. 4488-B. Female aged sixty. The onset of her illness occurred at age thirty-one, and she was hospitalized at age thirty-seven. She talked much of unseen people and had no insight into her condition. She was completely disoriented and deteriorated. There was considerable hair on her face, and she had large hands and feet. Her weight was 290 pounds. A mental diagnosis of Paranoid Schizophrenia was made. There was hypoactivity of the posterior lobe of the pituitary and hyperactivity of the anterior lobe.

Hypoactivity of the anterior lobe before adolescence produces an infantilism of the body build, first described by Lorrain and so named. There is no consistent mental picture associated with this syndrome though mental retardation is common; this is illustrated in the following case.

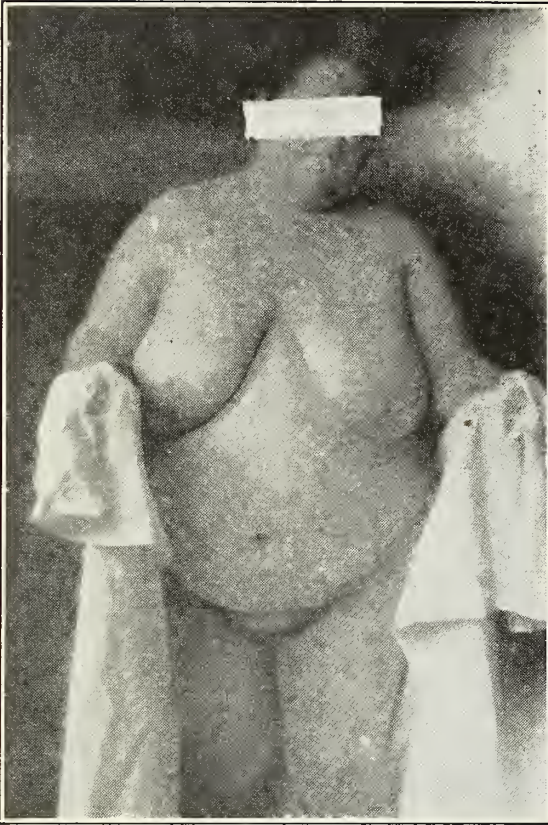
Case 6. No. 4489-A. Male aged twenty. The patient was feeble-minded, the youngest of ten children. At the age of nineteen he developed spells of weakness without loss of consciousness; he had no headaches. There was a childhood history of enuresis. His height was five feet two inches.

Hyperfunction of the pituitary gland before adolescence usually produces gigantism, and after adolescence, acromegaly. In gigantism there is no consistent mental picture. In five such cases studied⁴⁰ one patient was feeble-minded and the other four were schizoid. Two are briefly presented here.

Case 7. No. 4489-C. Male aged twenty-one. The patient had pulmonary tuberculosis and was feeble-minded, probably on a congenital syphilitic basis. X-ray of the skull showed osteoporosis and a normal sella. The spinal fluid was negative. His height was six feet four and one-half inches; weight 132 pounds.



Case 3. No. 2385. Posterior Lobe Hypopituitarism



Case 4. No. 4488-I. Post-Adolescent Pituitarism

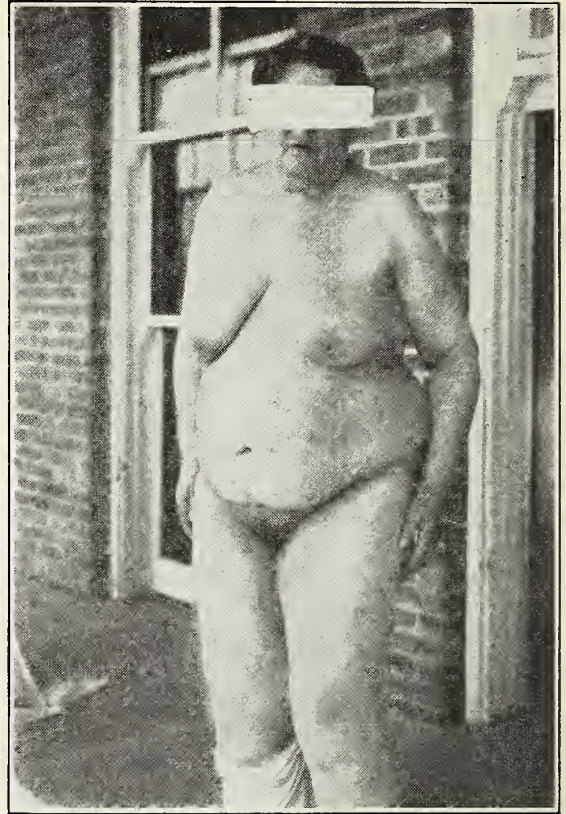
Case 8. No. 687. Male aged sixteen. The patient showed hyperactivity of the anterior lobe of the pituitary with a mental picture of Schizophrenia. He complained of headaches. Height six feet three and three-fourths inches.

Occasionally mental symptoms develop which suggest a deficiency in pituitary activity in an individual whose bony growth gives evidence of an earlier hyperactivity.

Case 9. No. 566. Male aged thirty-seven. The patient showed many signs of dyspituitarism, suggesting hyperactivity of the anterior lobe before adolescence. When examined he showed suggestive secondary pituitary insufficiency, with excitability, restlessness, discontent and impotence. His height was six feet three inches.

In the acromegalic individual, the most commonly associated mental change is depression, and rarely a hypomanic state is seen.^{41, 42, 43}

Case 10. Female aged fifty-five. The patient had enjoyed a fairly successful career as a teacher. At age about thirty-five she began to notice enlargement of her hands and facial features accompanied by periodic attacks of polyuria and headache. She consulted a physician who on examination of the urine told her that she had diabetes. She responded fairly well to dietary treatment and continued teaching. At age thirty-eight she had a mild depression, arising, she thought, from overwork and worry connected with teaching. She gave up her work for half a year and apparently completely recovered



Case 5. No. 4488-B. Dyspituitarism

her mental health. Her acromegaly continued to become more prominent but she apparently did not develop any sense of inferiority from it. She had four attacks of depression, lasting from two to six months, during which the polyuria and headaches were always more pronounced.

Rarely one notes a schizophrenic-like reaction⁴⁴ as illustrated in the following cases:

Case 11. No. 4489-H. Male aged forty-seven. This acromegalic had a history of epilepsy in childhood. He was feeble-minded and developed a fear that someone was going to kill him and his family. He wanted to get away from home; he talked incessantly and would not eat. Later he became mute. His weight was 210 pounds. He had tremendous ears, rhinophyma of the nose, and extremely large hands and large breasts. He had convulsions about once a month.

Case 12. No. 4489-E. Female aged thirty-eight. This patient was an acromegalic with a diagnosis of Paranoid Schizophrenia; she showed delusions of persecution, visual and auditory hallucinations, and was aggressive and resistive.

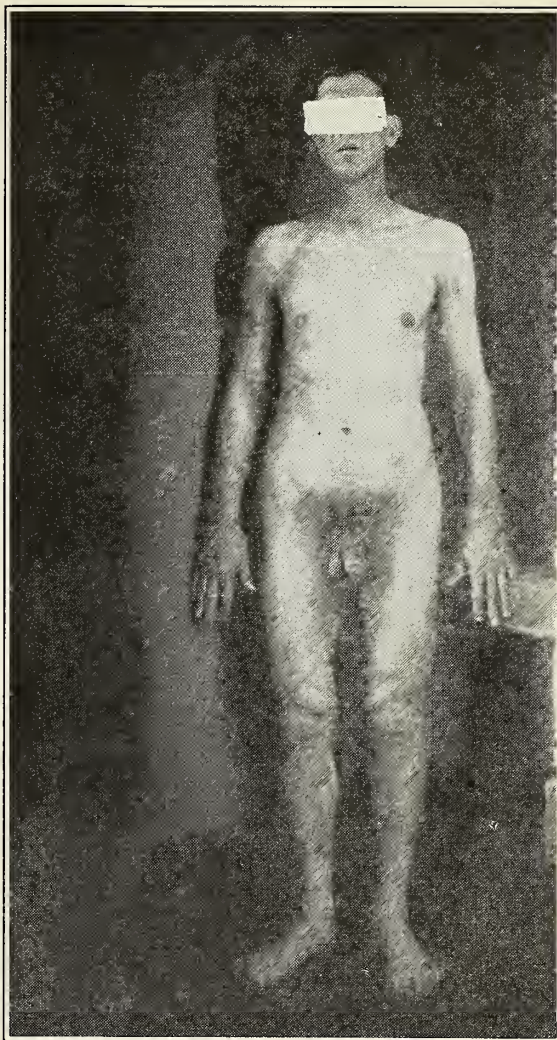
Much more frequent than frank psychoses are the emotional disturbances which appear secondarily to physical alterations in the body structure due to the dyspituitarism, for example, obesity. This is well shown in the following case.

Case 13. Female aged eighteen. Physically the patient presented a typical picture of hypopituitary obesity; she had always been mentally alert and

sociable, and intellectually above the average, though she was hypersensitive. She came from a socially prominent family. During her first few months at college, before her sorority sisters felt familiar with her, she got along well. As time passed and her dieting and treatment efforts were more evident the girls began to joke about her obesity and this continued until the patient became acutely depressed about it. It was necessary to enlist the aid of the housemother and several girls to prevent her leaving college.

Primarily Psychiatric Pictures: There are no conclusive examples of pituitary changes secondary to psychological factors. Cases of schizophrenia show a high per cent of mild pituitary (particularly metabolic) changes^{12, 35, 39} development of obesity, changes in the carbohydrate metabolism, and increased specific dynamic action.⁴⁵ It is a common (though rarely described) observation that the great majority of cases of adiposogenital dystrophy disappear with the progress of adolescence; this is at least suggestive of a functional rather than an organic change.

Concomitant Development of Mental and Pituitary Symptoms: The concomitant development of mental and pituitary symptoms is rarely sufficiently common or pathognomonic to confuse the primary condition. The

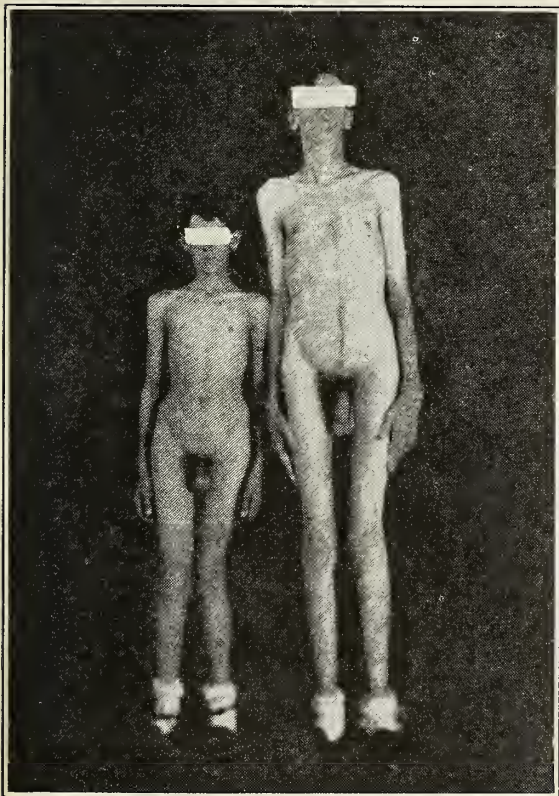


Case 9. No. 566. Pre-Adolescent Hyperactivity of Pituitary, Anterior Lobe

suggestive signs of pituitary disorder developing in mental illness (adiposity, weight loss, carbohydrate metabolism disorder, disturbed fluid equilibrium, menstrual irregularities or cessation) may be attributed to the involvement of other glands.

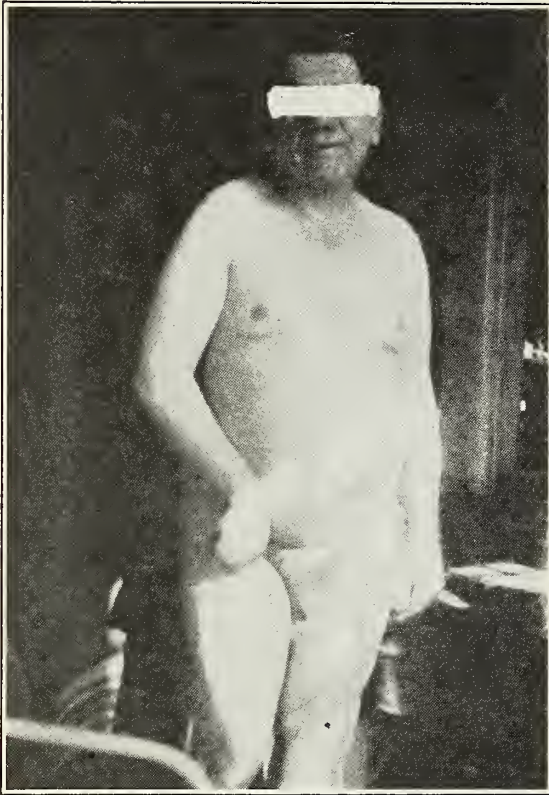
PANCREATIC RELATIONSHIPS

The relationships between the personality and the various clinical pictures simulating diabetes are confused by our inadequate knowledge regarding the etiology of diabetes. Thyroid influences may produce a picture of diabetes. There is a very definite relationship between the pituitary gland and diabetes, as shown by Houssay.⁴⁶ He removed the pancreas from dogs and produced diabetes; this, however, disappeared with removal of the pituitary gland and returned when the dog was treated with pitui-



Case 6. No. 4489-A.
Lorrain Infantilism

Case 7. No. 4489-C.
Giantism



Case 11. No. 4489-H. Acromegaly

tary substance, thus demonstrating the presence of a pancreatropic pituitary hormone.

Primarily Diabetic (organic) Disorders: The relation between psychiatric and diabetic disorders is the subject of an extensive study by Menninger.⁴⁷ There are at least five organic clinical pictures simulating diabetes which may be associated with personality changes. Occasionally diabetes mellitus is associated with, and apparently responsible for, a toxic mental state; this is shown in the following case.

Case 14. Male aged fifty-seven. The patient had been unhappily married for some years. He had diabetes seven years prior to examination but felt well and took no treatment; he developed leg pains which forced him to go for treatment. A glucose tolerance test showed very high blood sugar levels: fasting blood sugar 331 mgm.; 1 hour 647 mgm.; 2 hours 579 mgm.; 3 hours 628 mgm.; 4 hours 524 mgm.; 5 hours 415 mgm. He was treated with diet and insulin and the symptoms disappeared. For eighteen months he continued treatment and then after five months of neglect he reported with a gangrenous left toe; he was hospitalized but lived only two months. During this time there was slight expansion of the gangrene, but then it nearly dried with slight sloughing. Despite insulin and diet his blood sugar repeatedly fluctuated above normal and was as high as 300 mgm. For approximately two weeks prior to death he was very confused, disoriented and had delusions that his clothing had been stolen. His remote memory remained fairly in-

tact but his recent memory was very unreliable. He was afebrile until two days before death; even at this time his urine was free from sugar and acetone, although the blood sugar was 415 mgm. He died of pneumonia, and the autopsy findings disclosed no brain changes and no other pathology.

Not infrequently the first apparent symptoms of tumors of the pancreas are mental, usually as marked emotional disturbances.⁴⁸ A marked glycosuria may be associated with brain tumors or hemorrhages. A recently reported case of a ruptured aneurysm in the circle of Willis showed a diabetic-like picture.⁴⁹ The clinical entity of hyperinsulinism has been subdivided into various types (⁵⁰ but mental symptoms are frequent: thirty-six of fifty cases with a fasting blood sugar below 0.07 per cent showed mental symptoms⁵¹). The following case, previously reported,⁵² illustrates the mental symptoms in a case of chronic hypoglycemia, i. e., hyperinsulinism.

Case 15. Female aged fifty. The patient complained of headaches of four years duration and dizziness of recent onset. She had amenorrhea after a hysterectomy at age forty-three. The headaches would disappear on lying down but gradually increased in severity until the patient was in almost constant severe pain. At times there was transitory confusion and inadequacy of thought. The day before she was hospitalized she started to talk but succeeded only in jabbering but this disturbance disappeared suddenly. The physical examination was negative though there were minor neurological abnormalities. Initial fasting blood sugar was forty mgm. The patient acted queerly for several short periods, declaring that she was going crazy, that there was something the matter with her head; occasionally she was tearful and would kick her legs in the air. Subsequent blood sugar tests were always very low; she responded promptly to small frequent feelings. Later a laparotomy was performed which revealed a marked fibrosis of the liver but no abnormality of the pancreas.

Insulin psychoses have been described in about three per cent of diabetic individuals treated with insulin.^{53, 54} Such reactions may take either an organic focal form or a purely psychotic form.

Primarily Psychiatric Pictures: Emotional glycosuria has been repeatedly demonstrated in animals by merely tying them to a board.^{55, 56, 57, 58} In man it has been shown to be present under the stress of examinations.^{59, 60, 61} Disturbances of the carbohydrate metabolism in various acute mental illnesses have been reported frequently^{25, 26, 27, 28, 29} and show chiefly a retardation in glucose metabolism in schizophrenia and depression, and an acceleration in manic states.

Diabetes mellitus has been reported to have been initiated by psychic trauma, and in a series of cases personally studied more than

fifty per cent of patients were under great psychological stress at the time of the onset of their diabetes. In certain cases of mental disorder a disturbance of the carbohydrate metabolism of a diabetic-like type occurs, which gives rise to the possible psychic etiology of some cases of diabetes.⁶² In such cases the criteria of the psychogenic origin of the disturbance include five factors: first, the psychopathology must be in evidence before the appearance of the carbohydrate disturbance; second, the mental picture must not be of the toxic or hypoglycemic type; third, there is a parallelism in the course of the two disorders; fourth, glycosuria and hyperglycemia must be present; and fifth, with mental recovery the carbohydrate disturbance must clear.

Emotional disturbances greatly influence the course of an established diabetes so that the insulin dosage and diet is entirely inadequate, although it had previously been satisfactory.

63, 64, 65, 66

Concomitant Relationship Between Diabetes and Mental Disorder: In many cases of mental disorder a disturbance of the carbohydrate metabolism is present and there is no apparent relationship between the two conditions though their courses may be parallel. Rarely is there an inverse relationship in which the mental symptoms improve as the diabetes becomes more pronounced, or vice-versa.⁶⁷ In even rarer cases there is an alternate relationship: when the mental symptoms develop the diabetes disappears but returns as the mental symptoms subside.^{68, 69}

THYROID DISORDERS

Primarily Thyroid Dysfunction: In Basedow's disease mental symptoms of tenseness and anxiety are often conspicuous without the appearance of psychotic symptoms; psychoses are rare. This was noted by Karnosh and Williams⁷⁰ who found thirty-one cases with hyperthyroidism in 7,422 cases of mental disorder. There is no consistent mental picture. Perhaps the most common type of psychosis resembles schizophrenia of the catatonic type.^{71, 72} Parthou⁷³ found that fifty-six of eighty-six cases of hyperthyroid psychosis were manic-depressive in their symptomatology; this finding is noted also by other writers.^{74, 75} An acute toxic psychosis has also been described.⁷⁶

In myxedema there is characteristically a slowness of thought, apathy, and motor inactivity. The patient shows sluggish reactions

and indefiniteness in his emotional responses; occasionally a manic state is seen.⁷⁷

Cretenism is always associated with feeble-mindedness and a stunted physical growth. This is well illustrated in the following case.

Case 16. No. 4487-A. Female aged thirty-six. The patient attended school for three years but was unable to progress. She had temper outbursts and would throw dishes and break dolls. She was placed in a feeble-minded school at twenty-two years of age. She was regarded as hopeless. Her I. Q. was forty and her mental age, six years six months.

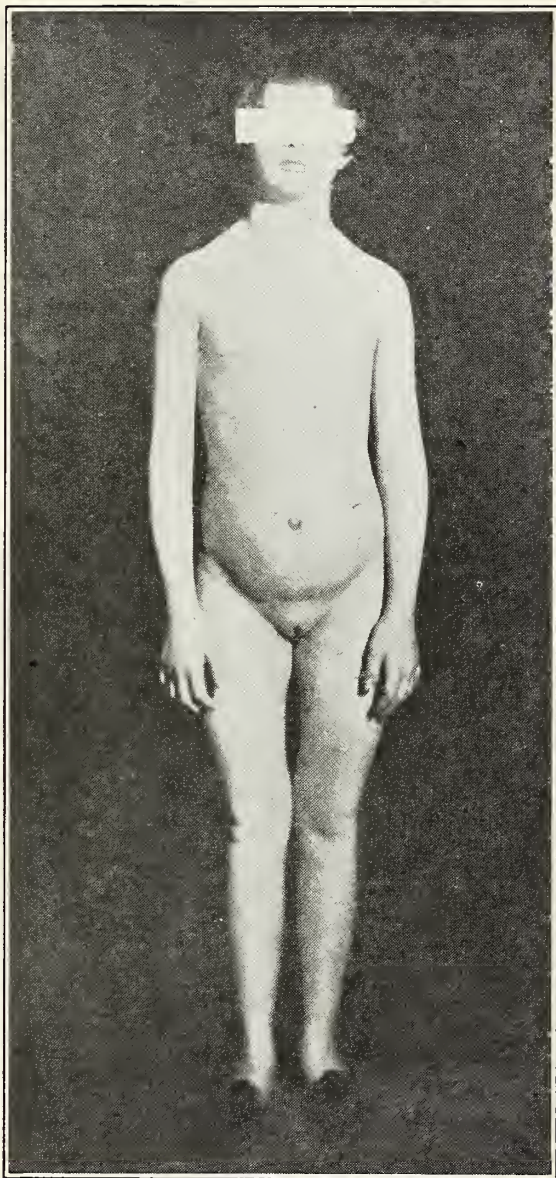


Case 16. No. 4487-A.

Closely associated with thyroid disorders though not as specifically a pure thyroid dysfunction are the cases of Mongolian idiots in which there is a general endocrine dyscrasia associated with faulty physical development and mental retardation. This is well illustrated in the following case:

Case 17. No. 2064. Female aged eleven. The patient was a full term child. There was no birth trauma. She held her head up at one year, sat up at three years, and walked at seven years. She could say a few words at six years of age. Her mental age was three years and three months.

Primarily Psychiatric Disorders: In all forms of excitement there is an increased basal



Case 17. No. 2064. Mongolism

metabolic rate, and conversely a decreased basal rate in depressions. The mechanism for this is probably very complicated but it is at least suggestive of thyroid overactivity.⁷⁸

Hyperthyroidism has very frequently been ascribed to purely psychological etiology. The prevalence of psychic trauma has been often noted.^{79, 80, 81} Conrad⁸² found that ninety-six per cent of 200 cases of toxic goiter had a history of emotional stress, and that symptoms occurred immediately preceding the onset of the toxic thyroid symptoms. Psychic factors have been regarded as the specific cause of thyrotoxicosis^{83, 84, 85} and psychoanalytic studies

have supported this observation.^{86, 87, 88}

Most surgeons as well as most psychiatrists recognize the tremendous importance of emotional factors in the etiology of hyperthyroidism. Undoubtedly there are cases in which psychotherapy is the superior method of treatment, though regardless of psychological changes established one must assume that the constitutional tendency toward defective thyroid function remains. Consequently, surgery is probably preferable in many cases if we grant its limitations in being unable to change the more fundamental psychological maladjustment.

Concomitant Development: The association of hypothyroidism and mental symptoms is frequent, particularly in schizophrenia. Ivanowski⁸⁹ reported on 252 cases in which he found that 43.5 per cent of the schizophrenics and twenty-three per cent of the manic-depressives had thyroid hypertrophy. Vanelli⁹⁰ tried out the Kottman test on 328 schizophrenics and found that ninety-four per cent of them had a hypothyroid reaction, three per cent normal, and three per cent hyperthyroid. This test, however, has been shown to indicate only the transient emotional state at the time of examination.⁹¹

It has been suggested that hyperthyroidism is associated with agitated states and hypothyroidism with apathetic states,⁹² though there is nothing further than basal metabolic studies to support this. Hoskins and Sleeper⁹³ found that ten per cent of 130 schizophrenics treated with thyroid substance improved, suggesting this etiological role in six per cent of the cases. Freeman⁹⁴ reported that one out of six or seven cases of schizophrenia is associated with hypothyroidism and tends to clear with treatment.

It is often impossible to state whether the psychiatric picture or the endocrine picture is primary. A typical case of schizophrenia with hypothyroidism follows:

Case 18. No. 4357. Male aged thirty-four. He was hospitalized because of pathological complacency and contentment and complete dependence and inactivity. He had progressed through high school and university where he majored in chemistry, making good grades. He was forced into medicine by his father's desire and finished in three and two-thirds years with superior grades. He developed a complaint of cardiac palpitation and distress, insisting that he had angina pectoris, though there were no organic findings. For the next four years he remained at home, apparently quite satisfied, complacent, making no effort to work or study; he became increasingly irritable and introverted. His father, a domineering tyrannical man, had one of his periodic altercations with the patient who then

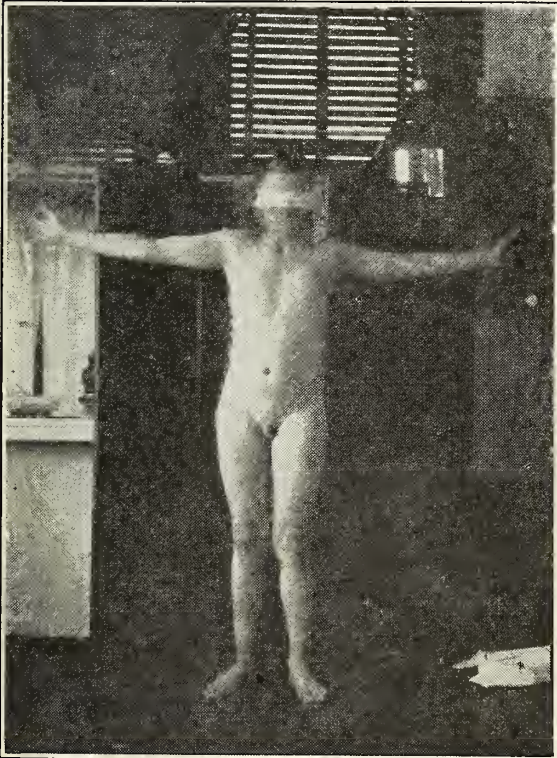
struck him; following this he had the patient committed. Physical and neurological examinations were normal; basal metabolic rate was minus 40. Psychiatrically he was undoubtedly a hebephrenic type of Schizophrenia.

GONADAL DISTURBANCES

It is often impossible to state whether disturbances in secondary sexual characteristics are of gonadal or pituitary origin and the relationship is a very intimate one. At least two types of primarily gonadal disturbances have characteristic mental pictures: castration, and the menopause.

In castration the picture varies, depending upon the age at the castration which may be surgical or inflammatory. When this occurs at or before puberty an effeminate personality develops, the voice fails to change, there is a tendency to female body configuration, and a failure of the secondary sex characteristics to develop. This effeminate character is often complicated by fears and a feeling of inferiority as indicated in the following case.

Case 19. No. 2532. Male aged twenty. At age twelve it was noted that the sexual organs of the patient had failed to develop. He had a high-pitched voice and there was no facial or pubic hair; the hips were broad. There was a high sugar tolerance. X-ray examination showed a shallow sella. He had a fear of impotence. Height was five feet seven and one-half inches; weight 150 pounds.



Case 19. No. 2532.

When castration occurs after puberty in males obesity develops and there are subtle changes in the personality tending toward effemininity.^{95, 96, 97, 98}

The climacteric is observed in both men and women. The consensus of opinion at the present time is that the physiological changes can be regarded only as precipitating any major mental change at this time, and there is no characteristic mental picture.^{99, 100, 101} There have been extravagant claims for recent preparations in the treatment of the menopause mental changes with ovarian and corpus luteum hormones,¹⁰² but a very conservative attitude is maintained by most physicians in their experience with these preparations.

Primarily Psychiatric Disorders: In all forms of mental disorder there is a high frequency of menstrual irregularity. It is possible that this is in part due to the influence of emotional factors on the pituitary or thyroid gland, but it seems more probable that the influence is exerted directly on the gonads. There is a tendency for the menstruation to be regular in the manic states, reduced or even absent in depressions, irregular in the acute schizophrenias, and normal in the chronic schizophrenias.^{103, 104}

An arrest in the development of primary sexual functions as well as secondary sexual characteristics has frequently been noted in schizophrenia by Allen and Henry.¹⁰³ Tiffany³² found changes in the testicles on pathological section in eighty-seven cases of schizophrenia. In the juvenile type of parietic neurosyphilis the menstrual function often fails to develop or may cease; there may also be failure of the genitals, breasts, and pubic hair to develop.¹⁰⁵

The somatic build of homosexual individuals tends to be that of the opposite sex: The males develop a female distribution of pubic hair, have a high voice, and deficient facial hair, and have small genitals; females tend to develop a male distribution of pubic hair, excessive hair on the face, a small uterus, underdeveloped breasts, excessive hair on the chest, and a low pitched voice.¹⁰⁶

SUPRARENAL GLAND DISTURBANCES

Primarily Endocrine Disorders: Both because of the rarity of the endocrine syndrome and gross mental changes associated with it, comparatively little has been written on the mental picture as seen in Addison's disease, suprarenal tumors, and the pituitary-adrenal

disease of Cushing. That mental changes do occur in all of these is established and occasionally even psychoses are apparent in the basophilic adenoma picture described by Cushing.

Primarily Psychiatric Disorders: Following the brilliant work of Cannon it is now well established that through emotional responses the adrenal glands are stimulated in such pictures as anger and fear—the primitive defense reactions. As a result of the additional adrenalin secreted the usable glycogen is mobilized, the blood pressure is increased and other characteristic changes occur in response to the emotional stimulation. It has been suggested that the chronic picture of fatigue and low blood pressure seen in certain psychoneurotic pictures is due to adrenalin insufficiency.¹⁰⁷ Fair therapeutic results have been obtained by denervation of the adrenal glands in the psychoneurotic syndrome called neurocirculatory-asthenia.¹⁰⁸

There is an extremely dubious relationship between various psychological pictures and the adrenal glands although there are reports of the successful treatment of the exhaustion manic-depressive pictures with suprarenal extract,¹⁰⁹ and psychotic pictures in which the "adrenal is dominant" in the disturbance.¹¹⁰

PARATHYROID DISORDERS

Primarily Endocrine: Tetany is rarely associated with a characteristic mental picture though it has been a subject of special study in this relationship, particularly as it relates to post-operative tetany.¹¹¹ A clinical syndrome of fatigue, slow growth and conduct disorder in adolescence with a blood calcium below 7.0 mgm. has been described¹¹² which responded to hormone therapy.

Primarily Psychiatric Disturbances: There is no clear cut mental picture although a report of good results in the treatment of catatonic states with parathyroid extract has been published;¹¹³ this, however, was not verified by later workers.¹¹⁴

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HYPERINSULINISM DUE TO ADENOMA OF ISLETS OF LANGERHANS

LESLIE B. SMITH, M.D.,*
EDW. H. HASHINGER, M.D.,*

and

L. P. ENGEL, M.D.†
Kansas City, Kansas

The description, by Seale Harris,¹ 1924, of spontaneous hypoglycemic states called our attention to a previously unrecognized disease syndrome. Since that time many case reports and discussions have appeared in the literature. This condition has been recently adequately reviewed by.^{2, 3, 4, 5, 6, 7} Spontaneous hypoglycemic states closely simulate the clinical picture of exogenous insulin reactions. Tedstrom⁶ lists twenty-eight conditions which may cause spon-

taneous hypoglycemia. At the present time most of the cases which come to our attention, because of the hypoglycemic symptom complex, are classed as pancreatic in origin. True primary hyperinsulinism is due to either adenoma, carcinoma, hypertrophy or hyperplasia of the islets of Langerhans; another of pancreatic origin may be classed as functional or neurogenic.

In 1926, Warren⁸ reported fifteen cases of islet cell adenomas from the literature and added four cases; since that time others have been added. The significance of these tumors was not definite until 1927 when Wilder⁹ proved that hypoglycemia could be due to a tumor of the islets of Langerhans.

The first successful operative removal, with relief of hypoglycemic symptoms, is accredited to Howland and associates¹⁰ in 1929. There are now ten cases reported of successful removal of adenoma of the islets of Langerhans, five at Barnes Hospital, St. Louis (Fisher two cases and Graham three cases),¹¹ others are Ross and Tomasch,¹² Bast et al,¹³ Cushing¹⁴ and two cases by Judd, Allen and Ryncarson.¹⁵ One of the cases reported by Judd and one reported by Graham² had two separate islet tumors present.

The following case is reported because the clinical picture manifests almost all the signs and symptoms of hypoglycemia, and cure followed the removal of an adenoma of the islets of Langerhans.

CASE REPORT

R. H., white female, age fifty-seven years, weight 158 lbs., height five feet, two inches. Complaint: Attacks of weakness and dizziness followed by convulsions and unconsciousness. Family History: Irrelevant. Past History: Patient had always been somewhat obese but had gained weight more rapidly since menopause two years ago. She had a craving for sweets and had been eating large quantities of carbohydrates for years prior to this illness. Present Illness: She enjoyed good health until February, 1934, at which time she began to have attacks of weakness and dizziness on arising in the mornings, occurring two or three times weekly and subsiding after breakfast. Within a few weeks attacks were accompanied by sweating, mental confusion, blurring of vision and moderate disorientation, making it almost impossible to dress herself and prepare breakfast. Gradually the attacks became more frequent, of longer duration, and occurred during the day, especially while preparing meals. In April,

*From the Department of Internal Medicine, University of Kansas School of Medicine, Kansas City, Kansas.

†From the Department of Surgery, University of Kansas School of Medicine, Kansas City, Kansas.

1934, she discovered that she could ward off or reduce the frequency and severity of the attacks by keeping her stomach full of food.

While she was cooking a noon meal, in June, 1934, an attack came on her which progressed to unconsciousness lasting about two hours. During this month and thereafter she says that she felt miserable all the time because she had to keep her stomach so full of food. In July the attacks rapidly increased in severity and frequency and during the last few weeks she has been having one to three mild attacks a day with three to four major attacks a week. On one occasion the stupor and unconsciousness lasted about eight hours.

Further questioning of the patient and her daughter revealed that the usual sequence of events for a characteristic attack consisted of a peculiar empty feeling in the stomach, weakness, dizziness, sweating, cold hands and feet, numb sensation in hands, lips and tongue, "thick tongue" with difficulty in speech, blurring of vision and often diplopia, profuse perspiration, mental confusion, disorientation, stupor, crying out, frothing at mouth, tonic and clonic convulsions, and coma. Most attacks were more mild and were varied in the sequence of symptoms; also there might be any number or combination of the above symptoms. The duration of symptoms varied from a few minutes to several hours. Her family had observed that the severity and frequency of the attacks bore a definite relationship to the patient's physical and mental activities. She was usually emotionally unstable, i.e. nervous, cried easily, and at other times was maniacal.

She had been observed by osteopathic physicians. Her family had finally concluded that she had epilepsy and probably was insane. She was admitted to the Medical Department of the University of Kansas Hospital for diagnosis.

Physical Examination: White female, age fifty-seven, height five feet, two inches, weight 158 lbs. Well developed. Feels well and does not act or appear to be sick. Physical examination revealed no abnormalities, temperature ninety-eight, pulse seventy-six, blood pressure 118/60, heart not enlarged, no murmurs, and reflexes normal.

Admission Laboratory Findings: Urine negative. W.B.C. 8,200; R.B.C. 5,290,000; hemoglobin 84 per cent; Blood chemistry: N.P.N. 33.1 mgm. per cent; creatinine 1.7 mgm. per cent; sugar 55.5 mgm. per cent; CO₂

combining power 52.3 vol. per cent; Wassermann and Kahn negative.

Diagnosis: Hypoglycemia probably due to adenoma of the islands of Langerhans.

The evening of admission patient was stuporous and would not respond well. Blood sugar was 55.5 mgm. per cent. The next morning she was confused, at which time blood sugar was 34.4 mgm. per cent. In one hour she was in a delirious state and crying out. The findings were, respiration, pulse and temperature normal, blood pressure 130/90, generalized spasticity of all muscles, tremor, frothing at the mouth, profuse clammy perspiration, bilateral Babinski sign, blood sugar 39.5 mgm. per cent. Patient was given 45 c.c. of 50 per cent glucose intravenously and within five minutes was rational, but crying; she walked to the bath room and within a few minutes appeared to be normal.

She was observed for a period of fifteen days, during which time she had from several minor attacks to one or two severe ones daily, varying in intensity from nervousness and visual disturbance to convulsive seizures followed by coma. The Babinski sign varied, being positive in some attacks and negative in others. Many attacks were prevented or rendered mild by giving the patient orange juice. She was allowed to have a quite severe reaction daily and always showed a prompt recovery following intravenous glucose (20 to 50 c.c. of 50 per cent solution), and on one occasion responded to 8 minims of adrenalin.

For four days this patient was given a high fat diet, the first two days carbohydrates 100 gms., proteins 60 gms., fat 260 gms., then for two days carbohydrates 100 gms., proteins 60 gms., fat 350 gms. On this diet she had only a few minor reactions and required oranges only once daily and no intravenous glucose.

Because of the severity and frequency of the patient's hypoglycemic reactions it was deemed advisable to do an exploratory operation.

Operation: 8/23/35. Pancreas exposed and explored. A small indurated nodule about two cms. in diameter, which seemed to be encapsulated, was removed from the head of the pancreas. No other nodules or abnormalities of the pancreas were noted. Uneventful postoperative recovery without any signs of hypoglycemia.

She was given 200 grams of glucose by mouth during the two hours preceding operation and at the time of operation blood sugar was 91 mgm. per cent; immediately following

operation blood sugar was 202 mgm. per cent and three hours later 250 mgm. per cent. Table I gives the morning fasting blood sugars following operation (no glucose medication required).

TABLE I. Morning Fasting Blood Sugar.

Pre operative day	Blood Sugar	Post operative day	Blood Sugar
14	55.5 mgm. %	1	300 mgm. %
13	34.4 "	2	187 "
12	29.5 "	3	132 "
11	45.85 "	4	124 "
10	50.0 "	5	113 "
8	52.6 "	6	96 "
7	51.25 "	7	131 "
6	34.8 "	8 to 16	101 to 146 "
5	54.5 "	180	129 "
4*		207	129 "
3*	71.0 "		
2*	73.0 "		
1*	81.0 "		
0	65.0 "		

*High-fat low-carbohydrate diet.

Pathological Report: Gross—ovoid mass of tissue, measuring 2 x 1.3 x 1.5 cms.; it is irregular and bosselated, gray in color, covered by numerous fibrous tags in which some granular appearing tissue is found. Cut section shows a cellular gray mass surrounded completely by a thin fibrous capsule. A small amount of dense fibrous stroma is seen.

Histological Pathology: Section shows some pancreatic tissue which is largely replaced by a rather atypical and irregular mass of glandular tissue that is pushing the normal pancreatic tissue over to one side. The abnormal cells seem to be more or less oval or rounded, and polyhedral in shape. They are frequently arranged in acinar formation and show considerable amount of cytoplasm and are frequently separated from each other by interlacing bands of fibrous tissue. The cytoplasm is also rather pale and appears to be rather vacuolated. In some places the outline of the tumor cells is rather indistinct and blends with the stroma. The general structure in some places approaches that of acini in some fields and in other places it appears to be more of the character of the islands of Langerhans, the cytoplasm being deeper eosin staining and showing darker, more hyperchromatic appearing nuclei, particularly in those areas where the tumor tissue in adjacent pancreatic cells have the appearance of large hypertrophied islands infiltrating into the normal tissue. It is interesting to note that in some places the tumor cells seem to blend into the walls of veins or lymph vessels without any sharp transition in either the adjacent acinar epithelial cells or of the island cells.



Fig. 1. Low power, photomicrograph of the adenoma of the islands of Langerhans. The upper one-half shows a more cellular area while the lower portion shows more hyalinization and fibrosis, which is the predominate tissue of this tumor.

In other fields the stroma plays a much more prominent part while poorly defined clusters and nests of tumor cells can be seen embedded here and there. The stroma is so prominent as to break up the tissue into poorly defined lobules. The tumor cells frequently show considerable degeneration and distintegration. Mitotic figures are occasionally seen but are not prominent or very numerous.

Diagnosis: Adenoma of the pancreas probably derived from the islands of Langerhans.

LABORATORY STUDIES

TABLE II. Oral glucose tolerance (1.5 gms. of glucose per kilo body weight) Readings = mgm. %

Time	Before Operation	20th Post-operative day	60th Post-operative day
Fasting	34.8	112	100
1st hour	183	137	165
2nd hour	165	173	120
3rd hour	165	182	112
4th hour	129	167	92
5th hour	76	108	103
6th hour			94

TABLE III. Continuous intravenous glucose tolerance* (Rate — one gram per kilo body weight per hour)

Time	Blood Sugar		Urine Sugar	
	Before Operation	20th Post-operative day	Before Operation	20th Post-operative day
Fasting	29.5	133	0	0
10 min.	110		0	0
20 min.	138	363	0	0
30 min.	162		0	Trace
40 min.†	197	319	0	0.3 %
50 min.	209		0	0.4 %
60 min.	244	315	Positive	0.8 %

*Controlled gravity method used for giving the glucose at constant rate.

†Glucose via veins stopped.

DISCUSSION

This patient presents several features worthy of mention. The wide array of protean symptoms and findings in this case make it very instructive, as almost all the symptoms and signs variously ascribed to spontaneous hypoglycemia are present. It is only necessary for one to review the picture presented by this patient to glean a comprehensive clinical understanding of the hypoglycemic syndrome, i.e. weakness, hunger, dizziness, sweating, emotional upset, cold hands and feet, numbness of extremities, lips, and tongue, thick tongue with difficulty in speech, incoordination of muscles, blurring of vision, diplopia, mental confusion, disorientation, tremors, convulsive seizures simulating epilepsy, stupor and coma simulating narcolepsy, also positive Babinski. Some of the minor attacks were suggestive of *petite mal*. The attacks were precipitated by lack of food and fatigue, and relieved by supplying food or glucose. It must be remembered that this patient is unusual and that only a small percentage of the cases present such a large number of symptoms. Tedstrom,⁶ 1934, has reported a numerical analysis of symptoms presented in hypoglycemia; also the reader is referred to Rynearson and Moresch⁴ for discussion of the neurological aspects. The latter state concerning hypoglycemic cases that "all had neurological symptoms of one type or another." It is not difficult to understand why many patients may be wrongly thought to be suffering from psychoneurosis, neurasthenia, hysteria, narcolepsy, epilepsy, alcoholism, brain tumor, and occasionally cerebral apoplexy as hemiplegia may be present when the patient is seen. This patient was thought to have epilepsy and to be insane.

This patient was only given a short period of medical therapy, with marked abatement of symptoms. This regime consisted of a high-fat diet with orange juice and glucose to relieve attacks. Prior to this she had been having one to two severe seizures daily with intervening mild symptoms, requiring frequent administration of orange juice and intravenous glucose, whereas on this regime orange juice was required infrequently, two of the four days none was given, and no intravenous glucose. This period of observation was not long enough to draw any definite conclusion but it supports the findings of others that high-fat, low-carbohydrate diet with frequent feedings is the most efficacious medical method of management of

cases of hyperinsulinism. Harris used this treatment early in his experiences. This is explained by the physiological fact that "fats have a definite inhibiting influence on the abnormal process responsible for the glycopenic syndrome" (Shepardson.¹⁶) We have two patients now under observation who are satisfactorily controlled by the high-fat low-carbohydrate diet.

That glucose acts as a stimulant to the pancreas to augment the flow of insulin is illustrated by this case. It was observed that when glucose was given by mouth or by venoclysis, as for glucose tolerance curves or for therapy that the intervals between attacks were shorter and reactions more severe.

The glucose tolerance as determined by the oral administration of glucose is in keeping with the fact that there is no definite type of curve for hyperinsulins. Excluding the low fasting blood sugar the patient's curve shows a mild decreased tolerance both before and after operation, the only difference being that the drop was more rapid after the peak and was more rapid before operation than following operation, Table II.

The continuous intravenous glucose tolerance curves, Table III, show that this patient had a greater tolerance for sugar before the operation than after. The method for intravenous glucose tolerance was developed by Woodyatt et al^{17, 18} who give the normal velocity as 0.85 mgm. glucose per kilogram of body weight per hour. In this case the upper limit of tolerance was not determined but one gram per kilo per hour was tolerated before operation whereas the same amount following operation gave a much higher glucose curve with sugar in urine at 30 minute period. We have employed this method in studying other cases of hyperinsulinism and find it more satisfactory than the oral method. This is also the opinion expressed by Ziskind¹⁹ who found decreased tolerance by the oral method with increased tolerance by the Woodyatt method.

We believe that this case has been permanently cured unless she develops another adenoma, and as yet recurrence has not been reported. She has been under observation for ten months with no recurrence of symptoms and blood sugar has remained normal.

CONCLUSION

1. A case is reported of hyperinsulinism due to an adenoma of the islets of Langerhans with

cure following the surgical removal of the adenoma.

2. Brief discussion is given relative to medical therapy, high-fat, low-carbohydrate diet, and oral and intravenous tolerance curves.

3. This case is of unusual interest in that it presents almost all the findings and symptoms of the hypoglycemic syndrome embodied in one case.

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MALIGNANT EPITHELIAL TUMORS OF THE OVARIES

L. R. PYLE, M.D., and ORVILLE R. CLARK, M.D.
Topeka, Kansas

Interest in this subject was aroused by the admission to Stormont Hospital, Topeka, Kansas, within a period of several months, of four patients having malignant tumors of the ovary, one of whom had been observed elsewhere for about six months as a case of pregnancy. These facts brought to mind the realization that ovarian malignancy is not a rarity, but a condition to be considered more frequently in cases of ovarian enlargement.

ETIOLOGY

The etiology of carcinomatous tumors of the ovary is unknown. The exact origin of the primary cells is not known, but the most generally accepted theories at the present are that the malignancy arises from some type of developmental anomaly. Chronic inflammatory conditions, trauma, and occupational and environmental conditions do not seem to be of any particular importance. Some writers say that these tumors occur predominately in married women, but that pregnancy is seldom present coincidentally, and, in parous women, has antedated the tumor by a number of years. Malignant ovarian tumors have been known to occur at any age from four to sixty-nine years, the highest percentage occurring between the fortieth and the seventieth years of life.

DIAGNOSIS

On the basis of clinical diagnosis malignant ovarian tumors are divided into two groups. First there are those large enough to present definite symptoms and physical findings. The second group includes those small tumors either causing no symptoms at all, or only very indefinite ones, and being very difficult to detect on bimanual examination.

Small, to moderate sized, freely movable cystic tumors, are those most easily diagnosed by bimanual examination, because of their position, mobility, and cystic characteristics. Large tumors simulate more closely other intra-abdominal tumors. Notwithstanding this fact, findings on palpation are of the utmost importance for a basis of diagnosis, as symptoms are quite worthless in the differentiation. Ovarian tumors as a whole are more sensitive to pressure than other tumors of the abdomen, squeezing eliciting pain which frequently radiates down the anterior surface of the homolateral thigh to the inner side of the knee. This radiation of the pain is often a subjective symptom in large rapidly growing malignant tumors of the ovary. It is also a valuable sign in determining whether a mid-line tumor may arise from the right or the left ovary.

The two most distinctive findings from the standpoint of physical examination are the cystic consistency and the pedunculate attachment of the tumors to the uterus. In the presence of both of these findings one is justified in making a diagnosis of ovarian cyst. However many ovarian tumors are fixed, either by adhesions or by sub-peritoneal extension of the

growth. In general, solid tumors especially of the malignant variety, form short pedicles because they tend to grow towards the mesovarium, while simple ovarian cysts and dermoids have long pedicles and tend to gravitate into the cul-de-sac. Small tumors are usually round or oval but the larger tumors, either cystic or part solid, may assume any shape.

In differential diagnosis we will divide ovarian tumors into three groups, according to size. Small tumors must be differentiated from inflammatory masses and fibroids. Small ovarian tumors are usually freely movable and symptom free as contrasted to inflammatory masses which are associated with pain tenderness, fever, fixation, increase in leucocyte count, and increase in the sedimentation rate. Fibroid tumors are differentiated by their consistency, connection with the uterus, or if pedunculated, by their longer pedicles.

Moderate sized tumors may be confused with encapsulated ascites or peritoneal exudate. These are very slightly movable, and more irregular in outline. Omental tumors are characterized by their marked mobility in all directions. A distended bladder is ruled out by lack of dribbling, or desire to urinate upon pressure, and by catheterization. Uterine pregnancy is differentiated by its central position, amenorrhea, symptoms of pregnancy, absence of the uterine body upon bimanual examination, and a positive Friedman test. Ectopic pregnancy is differentiated by the greater tenderness of the mass, and its tenderness to float anteriorly.

Large ovarian tumors are characterized by enlargement from below upwards, the mass upon examination being both abdominal and pelvic. There is frequently an associated ascites with these larger lesions. Tumors of the kidney are ruled out by urine examination and urography.

Diagnosis of malignancy in an ovarian tumor may, in some cases, be made on the basis of the loss of weight and strength, bilateral and equal sized tumors, and ascites. However, in most cases removal of tissue for microscopical examination is necessary for a definite diagnosis of malignancy.

PATHOLOGY

1. Cystic Carcinoma of the Ovary, or Papillary Cystadenocarcinoma: These tumors may be either primarily malignant cysts, or a malignant degeneration of a previously benign papil-

lary cystadenoma. In gross appearance they are practically the same—cystic tumors, usually bilateral, varying in size but usually not more than 10-15 cm. in diameter, often having papillary projections outside the main cyst wall, and usually with numerous papillary projections into the cyst cavity. These projections may be so proliferative as to entirely fill the cyst cavity. Gross differentiation from a benign papillary cystadenoma may be impossible. Regional transplantations to the peritoneum, and extensions into neighboring organs (broad ligaments, uterus, vagina, rectum) are quite frequently found at the time of operation. The fluid of the cyst cavities in the smaller tumors is usually clear, while in the larger cyst it may be turbid because of epithelial desquamation, and occasionally is even hemorrhagic. Microscopically there are in the cyst wall areas of typical adenocarcinoma, mixed with areas which are benign. The papillary growths are covered with many layers of rapidly growing, invasive, polymorphic epithelium, which forms cohesions between the various papillae. There is a great variation of both the form and the staining properties of the epithelium of these tumors. The stroma of the papillae is made up of a poorly cellular fibrous tissue in most instances, though occasionally one will be so cellular as to resemble sarcoma. There are frequently areas of calcification either in the papillae or the wall, consisting of concentric layers of calcified tissue, called psammoma bodies. Metastases in the sense of blood stream or lymphatic metastases, are not common, though they do occur. The most common means of spread of these lesions is by direct extension, or by implantation of secondary tumors in the peritoneal cavity from breaking off of papillae, or rupture of the cyst wall and dissemination of the fluid.

2. Primary Solid Carcinoma of the Ovary: These tumors are less common, making up about fifteen per cent of ovarian carcinomata. They may be medullary, alveolar, scirrhous, or transitional between these types. They are seldom larger than an infant's head, and usually maintain approximately the normal shape of the ovary. They are bilateral in about fifty per cent of the cases. The tumors are at first free, with a short pedicle, and then become adherent. Torsion of the pedicle is uncommon. Grossly the tumor is irregularly rounded, a grayish pink color, and large veins can usually be seen coursing beneath the surface. In the later

stages there may be ulceration through the capsule. The cut surface is of a yellow gray color, and there are embedded areas made up of carcinomatous cells in an edematous connective tissue. There may be small cysts, resulting from necrosis, and consequently lined by a soft friable tissue. The tumor may be mottled with hemorrhagic areas, giving it an appearance resembling marble. Microscopically the larger number are alveolar carcinomata, with small solid cords of polygonal or irregular epithelial cells in a fine connective tissue network. If there is rapid enough growth so that there is no alveolar formation, it may look somewhat similar to a round cell sarcoma. The medullary type is made up of small polyhedral or rounded, opaque, granular cells, arranged in broad columns which may anastomose in their growth. The scirrhus type is made up mostly of dense fibrous tissue, in which are embedded small nests of single cords or epithelial cells.

3. Solid Teratomata of the Ovary: Tumors of this group are distinguished from the dermoid cysts by their origin from all three germ layers instead of from one, and by the absence of the cystic cavities containing hair, special organs, and sebaceous material as found in the dermoids. Grossly teratomata consist of solid tumors, attaining the size of a man's head, and often extending to the retroperitoneal glands, and the intraligamentous areas. There are usually numerous small cysts scattered through the tumor but they do not make up one large cavity as in the dermoids. Microscopically there are cells from all three germ layers, growing in a helter-skelter fashion, and some abortive structures corresponding to those found in a more fully developed state in the dermoids—cellular cartilage, pigmented retinal tissue, osteoid tissue, and embryonal teeth germs, similar to those in the adamantinoma. They are all characterized by the malignant embryonal type cells, and the cellularity of the stroma in which they are embedded. Their growth is usually rapid, and they metastasize frequently, though in the secondary tumor there are not necessarily found all the elements of the primary lesion.

4. Metastatic tumors of the Ovary: There are found various types of secondary tumors in the ovaries, but the most common is the so-called Krukenberg tumor. First described as a bilateral primary tumor, it is now generally conceded to consist of bilateral metastases from some primary growth elsewhere—gastro-intestinal tract, breast, thyroid, etc. The tumors

may be the size of a fist, or even larger, and are composed of a stroma of spindle cells and connective tissue of various sorts, with edematous, myxomatous and necrotic areas. Embedded in this stroma are epithelial cells which secrete mucous, and characteristically they are stretched out to form the "signet ring" cells, with the nucleus pushed clear to one side of the cell by the collection of the secretions within the cell itself. These tumors are of course always fatal, since they are all metastatic.

There are, in addition to the above mentioned types of malignant tumors, numerous other types which occur more rarely, and these will not be considered here. Among these are the granulosa cell carcinoma, the folliculoma malignum ovarii, the germ cell carcinomata, luteoma, and others.

TREATMENT

There is very little that is encouraging to say of the treatment, either operative or radiation, as it is quite unsatisfactory at best. Because of the possibility of malignant degeneration of the papillary cystadenoma or even of the serous and pseudomucinous cystadenomata, operation is indicated for any case of ovarian tumor as large as one's fist or larger, even though malignancy is not suspected, and may not be present. The operation of choice, for malignant lesions of the ovary, is supravaginal hysterectomy, with bilateral salpingo-oophorectomy, thus removing as many of the paths of extension as is practical. The possible exception is in young women in whom it is desired to preserve the child bearing function. Against this conservatism, however, it must be remembered that there are reported cases when a malignant tumor of the ovary has been removed, leaving an apparently normal ovary on the other side, only to have development of a similar tumor on the opposite side at a later date.

In cases too far advanced for complete removal of the growth, because of transplantations to the peritoneum or extension beyond the scope of excision, removal of the primary tumor will usually give some temporary relief, and may at least give the patient a little more comfort for her remaining days. Then there are a few authentic cases of "cures" following removal of the primary lesion only, in the face of metastases to the peritoneum and neighboring organs.

It is important to try to remove the tumor without spilling any of the cyst contents, be-

cause there may occur secondary growths from the dissemination of the fluid. If the cyst is ruptured, the spilled contents should be cleansed out as thoroughly as possible.

The only other treatment to be considered is radiation following operation, or in those cases where operation is deemed impossible. Radium has been of no apparent value in these cases, and x-ray has not been at all encouraging. It probably gives some temporary relief in some cases, but has been quite disappointing as far as any real arrest of the growth is concerned. These patients usually run a down-hill course, developing ascites, pain from extension into nerve trunks, and obstipation from involvement of the gastro-intestinal tract.

Recurrence following operation is very common as is shown by practically all the published statistics. The series of Pfannenstiel, Fromme, and Hofmeier, which were quite large series, showed a recurrence in eighty-three per cent of the papillary carcinomata, and in sixty-six per cent of the solid cancers after operation. The recurrences were higher where the lesion was bilateral, being found in ninety per cent as compared with from forty-three to fifty per cent in those having only one-sided involvement. The cures were only 14.6 per cent.

The following cases were all operated by Dr. W. M. Mills, of Topeka, and we wish to express our appreciation of the opportunity of reporting them here.

Case No. 1. White married woman, forty-six years of age, was admitted to the hospital on May 6, 1934. She had had more than her usual menstrual flow for several months, and in February 1934 had had an attack of severe abdominal pain. Examination at that time revealed an adnexal mass on the left side the size of a man's fist, and operation was advised then, but refused. She never was completely free of pain after this acute attack. For the last month before admission there had been noticeable growth of the mass. Examination on admission showed a large lower abdominal mass, rounded in shape, and rising from the pelvis to a level above the umbilicus. Blood and urine examinations were normal. On May 7, 1934, under ether anesthesia the abdomen was opened through a mid-line suprapubic incision. A multilocular cyst about eight inches in diameter had replaced the left ovary, and the right ovary was cystic though smaller. In the wall of the larger cyst were numerous adenomatous areas, and the contained fluid was bloody.

A supravaginal hysterectomy with bilateral salpingo-oophorectomy was performed. The microscopical diagnosis on the tissue was adenocarcinoma. The patient had considerable difficulty in voiding after her operation, and on her eighth post operative day had an attack of paroxysmal tachycardia lasting eight or ten hours, with a pulse rate of about 220. Otherwise her convalescence in the hospital was normal, and her wound healed well. She was discharged on the thirteenth postoperative day. About eight months later she died of carcinomatosis.

Case No. 2. White married woman, thirty-six years old, entered the hospital on September 23, 1934, with a preliminary diagnosis of pregnancy. She had had no serious illness and her past personal and family history were both negative. She had had two previous pregnancies, going to term, with normal deliveries, and living children. No miscarriages.

In January, 1934, she began to feel tired and peopless. This was associated with some nausea. Three or four months following this onset, she began to notice an enlargement of the lower abdomen, regular in contour, and in the midline. She thought that she was pregnant although she had had some irregular bleeding each month. Enlargement of the abdomen continued at about the rate expected in pregnancy, and at times she thought that she was able to feel movement, although never the activity that she had experienced with her other pregnancies. She was examined by a physician and he concluded that she was pregnant, and thought that he was able to hear the heart tones. In June, about three months before admission, she began to have sharp shooting pains down the legs, which would come on at first after some type of movement, but later might come on at any time. For the last six weeks both legs had been markedly edematous, and she had been confined to bed, and had quite a rapid pulse rate. She was sent into the hospital with a diagnosis of decompensated heart complicating a term pregnancy.

Physical findings were: An undernourished female about thirty-five years old, appearing rather acutely ill, and markedly dyspneic. There was slight enlargement and tenderness of the breasts, and milk could be expressed from either breast. Heart was normal size, rate 110, rhythm regular, and no murmurs. Lungs were negative for moisture or dullness, the breathing shallow and rapid. The abdomen was dis-

tended to about the size of a term pregnancy. There was moderate bulging of both flanks. There was a large regular tumor mass about the size of a term pregnancy in the mid-line. This tumor mass had a peculiar feeling of resiliency and not the intermittent contraction and relaxation of a gravid uterus. No heart tones could be heard, and no fetal parts were detected. There was a definite fluid wave in the abdomen. Vaginal examination was not made, but by rectal examination the cervix was high and firm. The uterine fundus was not palpated. Both lower extremities were markedly edematous and tender, and she could move only with difficulty. Laboratory findings: Hemoglobin, sixty per cent, R.B.C. 3,840,000, W.B.C. 9,950. Urine was negative except for a trace of albumen. Blood urea 49.2 mg. per 100 cc. Blood Wassermann negative. Friedman test negative, and x-ray of the abdomen negative for any pregnancy.

With rest in bed her general condition improved enough to warrant operation, and this was performed on September 29, 1934. A large irregular, nodular, cystic tumor measuring five by eight by twelve inches was found arising from the left ovary. There were extensive transplants on neighboring peritoneal surfaces. The right ovary was adherent to the main mass, and there was some question of involvement on this side. The left ovarian mass was removed, no more being taken because of the extensions. The microscopical diagnosis was malignant teratoma. The patient made an uneventful convalescence in the hospital.

She was seen in July, 1935, and was feeling well, had gained thirty-five or forty pounds in weight, and had no evidence of recurrence to either abdominal or vaginal examination.

Case No. 3. This patient is a white married woman, forty-four years of age, admitted on October 24, 1934. About three months before admission she had noticed she was losing her pep, and was not able to work as she had been accustomed. There was some bearing down in her pelvis, and a low backache. For the past five or six weeks she had noticed an enlarging mass in her lower abdomen. There was no loss of weight, and no menstrual disturbance. The only thing of significance in her past history was that she had her right breast removed three years before for a benign tumor. Examination at the time of admission showed a large abdominal mass, filling the lower half of the abdomen, and reaching above the umbilicus on

the left. This mass was soft, and fluctuant in parts. It was thought to arise from the left ovary, as the uterus could be separated from it on vaginal examination. Blood and urine examinations were normal. On October 25, 1934, under spinal anesthesia, the abdomen was opened through a long mid-line incision extended up to the left of the umbilicus. Arising from the left ovary was a multilocular cyst, about the size of a six months pregnant uterus, with numerous areas through the wall where there was thickening and hyperplasia. A supravaginal hysterectomy, and bilateral salpingo-oophorectomy was performed. The microscopical diagnosis was adenocarcinoma. On her third postoperative day, she developed a paroxysmal tachycardia with a pulse rate of about 260 which lasted for about three hours. Otherwise her convalescence was uneventful, and she was discharged on November 10, 1934.

In August, 1935, she was seen, and she was not feeling as well as previously, she had lost a few pounds in weight, and was having some lower abdominal discomfort. Vaginal examination gave the sensation that there was some induration in the left broad ligament—probably a recurrence or a further extension of the original lesion.

Case No. 4. White married woman, forty-six, who was admitted to the hospital on April 19, 1935, with a rather vague history of menopausal disturbances—nervousness, hot and cold flashes, etc., which were relieved somewhat by administration of female sex hormones. Examination revealed a firm, cystic mass, about ten cm. in diameter, to the right of the uterus, and separate from it. The mass was somewhat fixed in its position. On April 20, 1935, under ether anesthesia, operation was performed, and a tumor ten cm. in diameter was found arising from the right ovary. This tumor was solid on one side, and cystic on the other. The left ovary was atrophic and adherent to the broad ligament and sigmoid. A supravaginal hysterectomy, with bilateral salpingo-oophorectomy was performed. The microscopical diagnosis on the tissue was malignant teratoma. Her convalescence was normal, and she was discharged from the hospital on May 4, 1935.

She was seen in July, 1935, and there was an improvement in her subjective symptoms, and examination revealed no evidence of any recurrence at this time.

This series of four cases, though being far

PRESIDENT'S PAGE

PERIODIC HEALTH EXAMINATION

Periodic health examination was first suggested by Dr. Horace Dobell, an English physician, nearly seventy-five years ago, but met with no response. Then, in 1900, Dr. Geo. H. Gould read a paper before the American Medical Association, and his idea of periodic health examination also met with an apathetic reception.

But the seed was sown, and in 1923, the American Medical Association and the National Health Council, at the St. Louis meeting, officially endorsed the periodic health examination. The American Medical Association then proceeded to appoint a committee to outline procedures and to draft forms to be used in making these examinations. So satisfactory have been these blanks that very few changes have been made in the original draft, and these were very minor changes. These blanks can be obtained from the American Medical Association at a nominal cost.

Twelve or fifteen years ago, certain life insurance companies got the idea it would be a worthwhile experiment to offer their policyholders free examination at regular yearly intervals. These companies think that they are able to show that the experiment has been a paying investment, for the increased life expectancy of the policy holders has saved more than it has cost to make the examinations. Other industries have adopted the method and put it into operation with satisfactory results.

If this plan of a periodic examination is good for the classes, why is it not good for the masses? And why should not every physician and the members of his family undergo regular health examinations? This custom would prove more effective than any other method of educating the public to the periodic health examination idea. Example is better than precept every time.

Health examination is not merely a physical examination, but a general examination of the whole individual, including definite questions as to his work, play, sleep, exercise, diet, habits, and numerous other questions covering his entire family history. This detailed history of the individual may prove of the greatest importance for, although the results of the examination may be negative, the history may reveal the previous occurrence of a disease prob-

ably latent, the existence of which would be diagnosed, although the symptoms are absent.

It is important that a physician should inquire deeply into the life habits of the individual as many people have acquired habits that eventually cause disease, which if recognized and corrected, mean prevention of disease. If, in the course of an examination, a physician finds any obscure conditions, he will surely request professional aid through consultation, or where there are indications for special laboratory procedure this will be arranged for as in all good medical practice.

These health examinations should be made by the family physician as we believe his knowledge and training, and the relationship which he bears to his patients, best fit him for this particular work. Also, by virtue of his position in the life of the family, it would be perfectly proper, and really his duty, to point out to the members the importance of a thorough check-up of their health at regular intervals.

And there is no better time to emphasize the importance of a periodic health examination in the prevention of disease than when a person is under the physician's care. Sickness makes a man appreciate health, and he will be much more receptive to suggestions and advice as to how to prevent diseases than when in good health.

The subject of periodic health examination has been introduced in the House of Delegates of the Kansas Medical Society at different times within the last decade, but, for various reasons, action in the matter has always been deferred. We believe that we have reached the time when some definite action should be taken, and that the subject should again be presented at the next annual meeting of our State Society; and that periodic health examination be endorsed by the House of Delegates in compliance with the recommendations of the American Medical Association.

The public will have to be educated to the importance of a periodic health check-up, as no laws can ever be enacted that will compel people to undergo an examination, and epidemics are not of a nature to cause many people to seek one. We believe that in such a program we will have the support and confidence of the people of our state, if we show them we are in earnest about periodic health examination, prevention of disease and conservation of health.

J. F. HASSIG, M.D.

EDITORIAL

THIS AND THAT

Support can be given to the Journal by the members of the Kansas Medical Society in several ways. One of these we recently mentioned in urging the support of our advertisers. Another and more important way is in making a practice of reading this publication each month thereby keeping abreast of state news, medical progress, and giving a rather heat-weary editorial staff its only reward.

Scientific articles of merit in the past have, as they should to a considerable extent, originated in the programs of our state meetings but such is not the case this year. So far only two papers have been secured from speakers at the Salina meeting although they were requested at the end of each talk. This situation should be forestalled at future meetings by requesting speakers at the time invitations are extended, to prepare their subjects for publication.

The Journal is faced with an even more serious crisis next year since the Council recently decided to abandon the 1936 state meeting entirely on account of the proximity of the A.M.A. session in Kansas City. If this plan is carried out the only way the Journal can maintain its scientific standard during these two years of literary stagnation is for our members to favor their own papers when submitting original articles for publication. We are in favor of maintaining both quality and quantity but if necessary will reduce the latter.

PHYSICIANS AND THEIR JOURNALS

That too few doctors read their medical journals is a criticism often observed by medical men. Dr. M. A. Blankenhorn, retiring professor of clinical medicine, Western Reserve University School of Medicine, in his recent address to the graduating class, takes occasion to deliver advice to the young doctors, stating that older physicians do not seek or accept advice upon the point of keeping up with the

progress of medicine. Dr. Blankenhorn is particularly interested in the doctor's company, his attendance upon society meetings and his reading habits.

The late Dr. Albert Ochsner stimulated reading among his internes and assistants by holding what he termed "Sunday School" every Sunday morning. Each man was required to report some important medical article he had read during the week. In this way Ochsner taught them to read journals, thereby creating an interest in current medical literature in the young men under his training.

It is not always the well read doctors who buy the most medical books. It may be a great temptation to buy attractive books from the agents, but the good students of medicine will have a well chosen selection on their shelves and worn by frequent handling. Medical journals will be read and reprints collected and filed with index for ready reference. The occasional reader is rather driven to recourse to books while the small minority of doctors who acquire good habits of reading become familiar with literature and are able to read more intelligently.

Some one has said that every patient should be an intellectual adventure. This can be truly so, only with those of scientific mind who possess the background of sound knowledge and an experience based upon scientific observation.

Dr. Blankenhorn estimates that only about one-third of doctors, after they are out in practice a few years, make any effort to keep up through reading and attendance at medical society meetings. He believes that through timidity, intolerance, jealousy, or indolence, doctors too often shun the companionship of their fellows which is necessary for liberal discussion of medical subjects. Such discussions every thinking physician knows to be essential to each man's development.

We once heard an eminent surgeon remark, "God deliver me from the doctor who wants to tell me about a case." The man who has a big story to tell about an unusual case every time you see him can become a bore to his fellows,

but earnest discussion is often productive of friendly helpfulness, whether in informal talk or in formal society meetings. Let us leaven the serious consideration of medico-economic problems with renewed zeal for the deeper interest of medicine. Doctors are not economists. In the trend of world forces, should our economic status be altered we shall still be doctors. We shall still have our incentive, the prevention of disease and the healing of the sick. Our security lies in this singleness of purpose.

CONTRACEPTION BY "PERIODIC ABSTINENCE"

It has been said that notwithstanding all of the methods of conception control, the mistakes will keep the population of the world well up to average. No method is fool proof. Especially true is this of the present very much discussed contraception by rhythm. Publishers are hurrying to get books on the market about it, and rhythm is being discussed in popular magazines and at the bridge tables along with the NRA and Shirley Temple. Priests, ministers, neighbors, and social workers have become practicing physiologists. Already we are getting results of misadvice and no doubt soon will be getting them in greater numbers.

Essentially the Ogino-Knaus theory is that ovulation takes place between the twelfth and sixteenth day before the onset of the next menses and that this is the fertile time of a woman's cycle. Here comes the difficulty; the exact date of the next expected menstruation cannot always be accurately estimated. In other words the method is only applicable to the woman whose cycle is within bounds of a regularity which can be classified.

It is believed that the ovum is able to be fertilized by a sperm for twenty-four hours and that a sperm may have the ability to remain able to fertilize an ovum for forty-eight hours after being deposited in the vagina. Thus to the four days referred to above must be added one day taken from the twelve and three days added

to the sixteen days before the next expected period, giving a possible fertile time of eight days. This leaves eleven sterile days before the next expected menses and accounts for nineteen days of the cycle. These days subtracted from the total days of the ordinary cycle leave the number of sterile days during the first part of the period. If the cycle is twenty-eight days, this leaves nine days. However, if the period lasts five days only, four days are left for intercourse and in proportion. It is obvious that any variation in the cycle will influence the number of sterile days during the first part of the cycle, and any inaccurate knowledge of the exact time of the yet-unknown expected period will upset the estimation of the fertile or dangerous days. Some good authorities are not so sure of their physiology and think the preovulation days are only "practically sterile" and that the safest rule is to confine unprotected sexual activity to the six or seven days before the next expected period.

Since it is advised to keep a record of the periods for at least eight months before a definite cycle can be estimated, since some women never menstruate regularly, when in young brides and often other sensitive women many outside influences change the regularity from month to month, and when after a pregnancy the cycle is often not established for a year or more, it is easy to understand that this method cannot have a universal application. We have, then, a method more correctly named "periodic abstinence" than periodic sexual activity.

For those women whose "religious scruples are stronger than their erotic impulses" and for those women who can sublimate the yearnings of their husbands to mathematics, this method will be a help. There is little danger that it will make obsolete all other forms of contraception.—Journal of the Indiana State Medical Association, July, 1935.

LABORATORY

Edited by J. L. Lattimore, M.D., Topeka, Kansas

THE AUTOPSY PERMIT

H. R. WAHL, M.D.*
Kansas City, Kansas

The postmortem examination is the best way of ascertaining why a physician has failed to cure his patient, but, in this country it cannot be performed without the consent of relatives, the permission of the coroner or the express authority of the statutes. The laws in the various states differ, but the general rules are the same. The physician who directly performs an unauthorized autopsy is liable for damages to the relatives even though he may have understood that such permission was obtained by another physician or by the institution employing him. Hence, it is most important that he personally investigate the permit before proceeding with the examination.

The consent to perform a postmortem examination does not have to be in writing though it is obvious that the written permit is preferable. Such a permit should specify the relationship of the one signing it to the deceased. It should also specify the limitations of such examination and state it if it is to be complete. It should also state where the examination is to be held. The undertaker is responsible for what is done to the body while in his custody and has the right to object to an autopsy on his premises unless the permit specifically states that it may be done in his establishment. Usually the undertaker allows the examination to go on, if he is assured that proper authorization has been obtained.

The consent to perform a postmortem examination may be given by the person who has the custody of the body and the responsibility of its burial. It is usually given by the surviving spouse or the nearest kin. Inasmuch as circumstances may alter this right, it is incumbent on the physician to be certain that the permit is signed by the right person before proceeding with the examination.

In the matter of postmortem examinations there are four considerations that should always be kept in mind and determine the procedure: first, reasonable requirements of the deceased from his social status; second, proper respect

for the feelings of relatives and friends; third, due respect to the known wishes of the deceased, and fourth, the demands of society.

There is an open question whether a physician may perform an autopsy without permit from the relatives in order to obtain information on the cause of death for the accurate filling out of the death certificate. Some courts have upheld this right, others have denied it. A body cannot be buried without a physician's death certificate. The trend is against such a procedure and to require an order by the coroner for such an examination, if the physician refuses to sign the death certificate.

The coroner may order a postmortem examination whenever there is a question as to the cause of death, whenever there is a possibility of criminal liability or a suspicion of foul play or death from unnatural causes. There are limitations to such examinations. The courts usually allow considerable discretion to the coroner but he must act in good faith and not cause more mutilation than absolutely necessary to secure the information for which the examination was made. He is expected to have regard for the feelings of the relatives. He cannot remove the organs unless they are needed for further investigation and study of the case. The autopsy is not considered a part of the coroner's inquest and the coroner has entire control of those who may witness the examination.

In cases where no known relatives can be found the coroner may order an autopsy. If he does not and no one claims the body in forty-eight hours even after reasonable efforts have been made to find relatives or friends the custody of the body passes to the tenant or to the owner of the premises on which the body was found or in which death occurred. In this way the superintendent of a hospital may dispose of an unknown patient and permit an autopsy at the end of that time. Unclaimed bodies in Kansas are to be turned over to the Anatomical Department of the University of Kansas at Lawrence.

The fact that the deceased was a public charge does not alter the right of relatives to the custody of the body and to consent for a postmortem examination.

The consent to an autopsy is the right of the nearest kin even if some other individual is paying the expenses of the burial. The executor of the estate does not have a prior right over the nearest kin.

*From the Department of Pathology of the University of Kansas.

Recently, the tendency of the courts has been to give every individual the right to designate the fate of his remains and can delegate to an insurance company the right to have an autopsy done on his body.

If a physician is not certain who has the authority to consent to a postmortem examination he would safeguard his own interests by having the permit signed by all those whom he suspects may have such authority.

Information obtained in a postmortem examination is not of a privileged character. The courts hold that the dead body is not a patient and therefore the findings are not confidential.

When a permit has been obtained the examination of the body should be restricted to the limitations set by the permit. The pathologist should be careful not to go beyond what the relatives have agreed to allow.

A permit to a postmortem examination does not include the disposition of the organs and viscera and their removal permanently from the body. It is true that this is the usual custom but it is very doubtful that this is legally included in the permit. In fact, in some states (Missouri) the statutes of the state specifically prohibit such removal of the organs. No such statute exists in Kansas. It is generally held, however, that organs and tissues can be removed if this is necessary for further investigation and study to complete the purpose for which the permit for the autopsy was given. Especially is this true if there is nothing in the permit regarding the disposition of the organs. Otherwise such remains should be returned to the body. The undertaker or the institution where the examination was held as well as the examining physician may be jointly liable if this is not done.

CASE REPORTS

ACUTE ANTERIOR POLIOMYELITIS

MAYER SHOYER, M.D.

Soldier, Kansas

Infantile paralysis most commonly occurs sporadically, but from time to time there are epidemic outbreaks, but sporadically or epidemically the disease is not so easy of diagnosis.

The symptoms are many and very deceptive such as fever, vomiting, nervousness, nasopharyngeal inflammation, headache, convulsions, rigidity of neck, tenderness along spine,

stupor, pain in the muscles, are all mentioned, but the one all important symptom that comes on early and on which I have relied nearly exclusively is the loss of the patellar reflex.

Dr. Earle G. Brown, Secretary of the State Board of Health, is of the opinion that many patients complain of pain in the area which later will become paralyzed even before the patellar reflex is lost. Of course there are some other diseases that cause loss of the patellar reflex, but they can be differentiated from acute anterior poliomyelitis.

In the six cases I have had in the past five years the symptoms have varied greatly, but the patellar reflex loss has been constant. This all important symptom together with fever, pain in neck and maybe along spine, and painful muscles, justifies a preparalytic diagnosis. Some of the cases I had were seen by the different county health officers. Preparalytic treatment is all essential, better to treat a case as infantile paralysis than for something else when the above symptoms are present, the treatment can do no harm.

All sick children must be considered cases of infantile paralysis until proved otherwise. I think we owe it as a duty to the child. The wreckage after paralysis is not so easily remedied.

I have had six cases in five years. Three in 1930 and three in 1934-35. The youngest was two years of age, the oldest six. All of the cases were treated with whole immune blood. If I could not get a donor at the time of diagnosis, I used blood from the mother or father and later from a donor who had had infantile paralysis within the last ten or eleven years.

Although it is a fact that many authorities state that neither whole immune blood or immune serum have any real effect on the course of the disease yet it is a fact that it does have a very good effect if given early. After paralysis of course there will be no result except possibly a limiting of the degree of paralysis, this is a guess as I have not had any cases to reach the paralytic stage.

Even if my diagnosis has been wrong in these cases, nevertheless the improvement in symptoms has been so marked in a twenty-four hour period after injecting whole immune blood, it surely seems worth while.

It takes several days for the patellar reflex to return to normal. Thirty to fifty c.c. of whole immune blood is used and repeated in twenty-four hours, and again if necessary.

I have four donors near here who have been very generous in their services.

I first used immune blood in 1930. My only regret is the small number of cases, it makes a report so inconclusive, but possibly some one in the larger cities of Kansas will report a larger number of cases treated with whole immune blood and with the loss of patellar reflex as the early guiding symptom, and as Dr. Earle G. Brown says also pain in the part which later will become paralyzed if allowed to go that far, provided your patient is old enough to tell you where they hurt. The symptoms of infantile paralysis being deceptive and varying in cases, are we sure of a diagnosis from pre-paralytic symptoms? I think we are. In some of the late text books it states that the treatment is entirely symptomatic and treatment should follow the general rules of infectious diseases. This is a dangerous teaching and should be ignored.

Two cases had as their symptoms, some difficulty in walking across the bedroom, loss of patellar reflexes, and fever. The two year old child had loss of patellar reflex, retracted neck, painful muscles on handling, and fever. One six year old girl had loss of patellar reflex, intense headache, stupor, and fever. One six year old girl had loss of knee jerks, very profuse vomiting, stupor, pain in neck, and along spine, fever and extreme nervousness. In this small series you see the symptoms varied but always present is the loss of the patellar reflex.

RABIES

CLIFFORD VAN PELT, M.D.
Paola, Kansas

Clifford Allen Kern, Louisburg, Kansas, age eleven, was bitten through the upper lip the night of July 3, 1935, by his pet dog. At the same time the dog was killed with a club by the stricken boy. Immediately the head was placed on ice and the following morning was taken to a Kansas City laboratory. Nigri bodies were found and the boy, within twenty-four hours, began taking Pasteur treatment. Twenty-one doses were given, two doses daily for the first three days and one dose daily thereafter. Everything went well until July 23 when he began to show signs of nervousness and irritability and slept little that night. The parents thought nothing of this and felt quite secure in the fact that he had taken the antirabic treatment. The

next morning he arose and carried water on horseback most of the day to a threshing crew. Occasionally when he would hand the water to the men he would make a noise like the barking of a dog. Still little concern was felt until the next morning when his nervousness and excitability increased and it was noticed that there were contractions and spasms about the muscles of the larynx and mouth especially when drinking water. The family physician, Dr. P. F. Gatley, Louisburg, was called. He felt very concerned about him and called Dr. O. C. Lowe and myself in consultation. The disease progressed very rapidly and became much worse during the three hours I was there. The violent reflex spasms of the larynx and mouth accompanied by an intense sense of dyspnoea, especially at the sight of water, was the most distressing feature of the disease. The patient was extremely thirsty but dreaded the sight of water. He spit saliva almost constantly. He was not still a second at a time. He was removed to St. Luke's Hospital that evening where he died about six o'clock, five or ten minutes after entrance to the hospital.

TUBERCULOSIS ABSTRACTS

TUBERCULOSIS IN THE CHILD

Many physicians think that all children are infected, and that so-called "tuberculosis infection" may be disregarded unless "tuberculosis disease" supervenes. This is a most dangerous view and often leads to neglect of children who deserve care. Many other physicians do not realize that serious tuberculosis is not at all rare in infancy.

There are two measures of the incidence, namely, the tuberculin skin reaction, and the death rate. The widespread impression among physicians that the tuberculin reaction is of little significance, and that practically all children after infancy are infected is far from the truth. The tuberculin reaction gives very definite information; it shows that the tubercle bacillus has lived and grown in the child's body and has given off something, exciting a sensitivity of the body cells to tuberculin. A positive tuberculin skin test does not tell whether the disease is active or not, nor whether the lesion is tuberculous, but merely that the individual has been infected at some past time.

Of the skin tests, the Mantoux or intracutaneous test has supplanted all others, since it is much more reliable than the Pirquet, Moro, or Calmette tests.

The death rate from tuberculosis, another measure of incidence, is as high in the first two years as any year until early adult life. It falls off rapidly up to five and the lowest rate is from five to fifteen, after which there is a steady rise. Tuberculosis is often a fatal disease in infants, but relatively not fatal in school children. The clinical aspects of tuberculosis are different in infants (up to two or three) and in older children, and they need separate consideration.

INFANCY TYPES

In infancy the primary focus gives few physical signs. A transient unexplained fever and perhaps failure to gain well are its only symptoms. In fact the element of surprise is the predominant note in nearly all infantile tuberculosis. The following types may be distinguished.

1. Tracheobronchial adenopathy of large extent. Such infants usually have fever and do not gain well. The chest shows practically no signs. The roentgen-ray gives a wide supracardiac shadow, often rounded outlines on one side or both, suggesting nodes.

2. Cases of "marasmus." There may be a story of feeding difficulty, but many infants do well at first and then begin to fail. Routine roentgen-ray should be done on all such patients and may reveal definite tuberculosis in the lymph nodes or wide dissemination, or even large cavities.

3. Cases simulating pneumonia. Fever, prostration, cough and physical signs of consolidation, or with crackling, resonant rales at the bases suggesting bronchopneumonia. These infants may be emaciated but are often fairly well nourished. The roentgen-ray shows mottled shadows over part or all of the pulmonary fields, indicating bronchogenic disseminated tuberculosis or localized consolidation much like a lobar pneumonia.

4. Unexplained high fever, without local signs, often turns out to be disseminated pulmonary or generalized tuberculosis.

5. A final group includes the cases which are definitely suspected of tuberculosis from the outset.

Physical examination of the lungs is often most unsatisfactory in small children. The stethoscope is the least useful instrument at our

disposal in the tuberculosis seen in childhood. The roentgen-ray may reveal large lesions in cases where no signs whatever can be elicited either before or after seeing the film. In all the acute and exudative forms of tuberculosis there is a leukocytosis.

OLDER GROUPS

Older children with a positive skin test, fall into the following groups:

1. Recent infections in those who have been infected within two years or less, that is, those who have a fresh primary complex.

2. Those who show calcification in the hilus region of the lung, perhaps a calcified primary focus in the parenchyma.

3. Children who have been infected more than two years who have healed their lesions by resolution and show no calcification.

4. A few who have definite pulmonary tuberculosis.

5. A few who have non-pulmonary tuberculosis in mesenteric nodes, cervical nodes, bones, kidneys, skin, etc.

It is important to determine whether the disease is active or not, since this is the keynote of treatment. Constitutional symptoms are more significant than roentgen-ray findings or physical signs. The better way is to test the children first, then roentgen-ray the positive reactors and in addition seek for signs of activity in all, regardless of the roentgen-ray findings.

The clinical picture of activity is characteristic and quite obvious to a trained observer. The symptoms and signs are few but added together should be enough to arouse suspicion of what is happening to the child. Fever is an almost constant sign of activity; that is, a rectal temperature which rises above 100 degrees nearly every day. Temperatures under 100 degrees may be disregarded in childhood. The fever is irregular, rising to a different level on different days. The highest point may be at any time of day or even in the middle of the night. The great irregularity is characteristic.

Failure to gain weight at the proper rate, (if due to malnutrition) is always a suspicious sign. No other disease seems to exercise so prompt an effect on the nutrition in childhood. Gain in weight may occur in adults with advancing lesions, but is rarely seen in children. There is often secondary anemia.

In infancy, fever, and loss of weight, with or without persistent signs in the lung, should suggest tuberculosis. Of course, bone disease

and meningitis always do so. A Mantoux test, the roentgen-ray and carefully recorded temperature and weight curves are necessary to complete the diagnosis.

In older children, failure to gain, languor, fatigability, a low transmission of the tracheal whisper and hypertrichosis are suggestive. Phlyctenules, tuberculides or other local disease may be the first sign. With a positive Mantoux, fever is significant of activity even with a normal roentgen-ray.

In the diagnosis of tuberculosis three questions should always be kept in mind.

First. Has the child been infected with tuberculosis? Answered by the Mantoux test.

Second. What is the site of the disease? The answer may be given by the symptoms, physical examination and roentgen-ray films. All of these may be practically negative, but in this event the mediastinal nodes are probably the site of the disease, since they are involved in most primary infections, or secondarily to some degree even when the primary complex is elsewhere.

Third. Is the disease active, stationary, or cured? This must be judged by general symptoms, fever, the effect on the nutrition and by any signs or symptoms of local activity.

TREATMENT

The treatment of children with tuberculosis is based on the same principles as those used in adults. If there are no local or general signs of activity a child should lead a normal life with somewhat closer watching than usual. Activity of the process as shown by fever, failure to gain and local signs of activity, demand rest until all the symptoms have entirely disappeared. The diet is important. Children do not take food nor digest it well if fed too often. Milk between meals or with meat meals is not advisable for any child.

The difficult period comes when a child first begins to get up. As soon as the temperature stays under 100 degrees for several weeks, if he is up to normal weight, and if there is no contraindication from local signs of activity, he may be allowed up a little at a time, but with care to avoid over-exercise. The effect on the temperature is the guide, as in adults. If the temperature again rises as a result of activity it is necessary to put him back to bed again and start over again.

The Tuberculosis of Childhood, Charles Hendee Smith, Annals of Internal Medicine, March, 1935.

MEDICAL LITERATURE

Edited by Will C. Menninger, M.D., Topeka, Kansas

CALCIUM DEFICIENCY IN INFANCY

A group of thirty-six cases, ranging in age from one day to twelve years, and demonstrating a syndrome of increased neuromuscular irritability and functional imbalance was made the subject of a study by Nesbit. The rather heterogeneous group of cases portraying hypertonia, restlessness, excessive crying, retraction of the head, irregular respirations, bronchospasm, pyloric spasm, enterospasm, convulsions, and cyanotic spells, was treated with methods that improve calcium metabolism, such as the administration of vitamin D, ultraviolet rays, acid milks, calcium gluconate, and the parathyroid hormone. All thirty-six cases showed partial or complete relief. A chart of the clinical manifestations and individual summaries of each case support Nesbit's work.

Nesbit, Harold T. Clinical Manifestations of Calcium Deficiency in Infancy and in Childhood, *American Journal of Diseases of Children*, 49:1449-1471, June, 1935.

ASTHMATIC INFANTS

In making a study of asthma in children, Waldbott finds that death from asthma in young children and infants is rare, as reported in the literature. He finds in his study that there is a distinct difference between the pulmonary observations of infants and those of adults. The manifestations in the case of an infant resemble more closely those in an anaphylactic lung of a dog than those in the lung of an asthmatic adult and tend to substantiate the theory of anaphylaxis and atopy. Waldbott thinks that it is possible that "thymic death," which is decidedly more prevalent among infants than asthma, according to literature and hospital records, may be the equivalent of death from asthma in infants.

He substantiates his theories by the detailed reports of the post mortem examinations of two children who died after three weeks and six weeks, respectively, of asthma.

Waldbott, George L. Pathologic Changes in Asthmatic Infants, *American Journal of Diseases of Children*, 49:1531-1539, June, 1935.

BASOPHILIC HYPERPLASIA OF THE PITUITARY

In a study of the relationship between the endocrine glands and hypertension, Pardee presents two cases. One case reported with a hypertensive plethoric syndrome characteristic of

pituitary basophilism was found to have a basophil hyperplasia of the hypophysis. The second case showed a less marked simulation of the classical syndrome. Additional evidence showed that hyperplasia of the basophil cells of the anterior pituitary may induce a hypertension and a typical syndrome of pituitary basophilism as well.

He concludes that the clinical syndrome of pituitary basophilism is protean, being reported with basophil adenoma, adrenal adenoma, and other unverified cases, and urges further investigation of the pituitary—adrenal—dienecephalic complex as a basic cause for hypertension.

Pardee, Irving, Basophilic Hyperplasia of the Pituitary in Essential Hypertension, *American Journal of Medical Sciences*, 190:1-8, July, 1935.

SYPHILIS IN THE AMERICAN NEGRO

Because of the wide variation in the literature regarding the incidence of syphilis in the American Negro, Jason reports the preliminary findings of a five year study being made at Freedmen's Hospital in Washington, D. C. The report, which covers the study of Wassermann tests made on 4,595 patients in the hospital from January 1 through December 31, 1933, shows 19.41 per cent positive reactions. Tables showing age, sex, hospital service, address, nativity, and socio-economic level reveal that these factors show significant variations in the incidence of syphilis. Marital status did not affect materially the incidence of syphilis in this study. Jason emphasizes, however, that the figures used in this report are not to be used as absolute indications of the incidence of syphilis in the American Negro, for they apply only to that part of the negro population treated at Freedman's hospital and to only a part of this. Since routine Wassermann tests were made on nearly all the patients only in the obstetrical and genito-urinary wards and in the genito-urinary clinic, Jason feels that the percentage would have been smaller had all the hospital patients been included in the study.

Jason, Robert S. On the Incidence of Syphilis in the American Negro, *American Journal of Syphilis and Neurology*, 19:313-322, July, 1935.

INSULIN IN UNDERNUTRITION

Freyberg offers a scientifically controlled study of the effect of insulin on undernutrition to disprove the prevalent opinion that insulin

is a valuable aid in the treatment of undernutrition.

The first part of the study included the careful observation of nineteen undernourished patients receiving injections of insulin with no attempt to fatten the subjects. The daily caloric intake and the change in weight was recorded for a control period and special care was taken to keep the patient from knowing what the injections were or that an appetite response was expected of him. Only one of these patients showed any increase in the rate of gain in weight.

In the second part of the study, an attempt was made to fatten the subjects and to measure separately the effect of (1) a high caloric diet, (2) suggestion accompanying injections, and (3) insulin. Eleven patients were placed on a high caloric diet and caloric intake and weight changes were recorded for a control period. When the injections were started the patients were enthusiastically told of the expected effects of the injections. However, sterile water or saline was injected for a period of two or three weeks before the insulin was started. Six of this second group showed no significant change in caloric intake or weight, and in two the benefit was less when insulin replaced the water injection.

Only two patients of the entire study showed any improvement that could definitely be attributed to insulin.

Freyberg, R. H. A Study of the Value of Insulin in Undernutrition, *American Journal of Medical Sciences*, 190:28-42, July, 1935.

ELECTROSURGERY IN UROLOGY

Electrosurgery as a treatment in urology is highly advocated by Harrison. He explains its use in the treatment of chancroid, verrucae, epithelioma of the penis, stricture of urethra, hypertrophy of verumontanum, vesical neck obstruction, prostatic hypertrophy, benign papilloma of the bladder, carcinoma of the bladder, chronic prostatitis, and polycystic kidney. Detailed descriptions of instruments and methods and a list of thirty-one references are included in the article.

Harrison, F. G. Electrosurgery in Urology, *Archives of Physical Therapy, X-Ray, Radium*, 26:393-397, July, 1935.

ANEMIA IN PREGNANCY

Strauss discusses the causes of anemia, both

hypochromic and macrocytic ("pernicious" in morphology), in pregnant women and its prevention. He concludes that hypochromic anemia of pregnancy is due either to a direct dietary deficiency or to a deficiency conditioned by gastric anacidity, hypoacidity, or associated gastro-intestinal defects in the presence of the fetal demand for blood-building materials. It may be completely relieved, either during or after pregnancy, by the administration of iron in suitable doses. Treatment is important because of the child as well as the mother. Although infants born to women suffering from hypochromic anemia of pregnancy show no reduction in the number of red blood cells or the percentage of hemoglobin at birth, they usually develop hypochromic anemia during the first year. This is presumably due to the shortage of blood-building materials in storage during the period of the milk diet.

Macrocytic anemia of pregnancy may be due to a temporary lack in the gastric juice of a specific intrinsic factor, to direct dietary deficiency, or a combination of these factors. It may possibly result at times from disturbances of intestinal absorption. It can be relieved either during or after pregnancy by the administration of materials potent in Addisonian pernicious anemia or of liver extract.

The development of anemia in pregnancy may best be presented by supplying a blood-building diet to the pregnant woman.

Strauss, Maurice B. The Etiology and Prevention of Anemia in Pregnancy, *Annals of Internal Medicine*, 9:38-41, July, 1935.

PEPTIC ULCER

The sequelae of peptic ulcer following medical and surgical treatment is the subject of a study by Hinton. He feels that prolonged medical treatment is likely to cause serious complications as is a too-hasty operation. He urges sound clinical judgment as to the selection of method of treatment. The two indications for operation—a gastric lesion and gastric retention of from fifty to seventy per cent of the meal at the end of six hours—which have been accepted in the past and at present are not reliable, according to Hinton. Gastric lesions respond to medical management much more readily than duodenal lesions and in seventy-five or eighty per cent of patients suffering from gastric retention of fifty to seventy-five per cent of the meal at the end of six hours, the stomach will completely empty under proper

medical management. On the other hand, Hinton states, persistent pain with periodicity is a certain indication for referring patients for surgical treatment. A patient of this type is suffering from an associated lesion which is usually chronic pancreatitis.

The incidence of gastrojejunal ulcer is the subject of much discussion and differences of opinion, but Hinton feels that, from the observations in his clinic, that the incidence of 16.4 per cent in cases of gastrojejunal ulcer after gastroenterostomy is an underestimation, rather than an overestimation.

The detailed case histories of seven patients are included as illustrations of his points.

Hinton, J. William, *Sequelae of Peptic Ulcer Following Medical and Surgical Treatment*, *Archives of Surgery*, 31: 137-150, July, 1935.

DELAYED UNION OF FRACTURES

Voshell advocates diathermy and passive vascular exercise as invaluable treatments in the delayed union of fractures. He reports seventeen cases, five of which were treated by diathermy and twelve of which received passive vascular exercise. All seventeen cases, after treatment, showed union, both clinically and through x-rays. As an introduction to his case studies, Voshell gives some pertinent details as to the causes of delayed union, its common sites, and important local factors causing delayed union.

Voshell, Allen F. Delayed Union of Fractures, *Archives of Physical Therapy, X-Ray, Radium*, 16:421-423, July, 1935.

MOIST HEAT AND INTESTINAL MOVEMENT

Carlson and Orr present the results of an experimental study as to the penetration of moist heat applied to the abdomen made at the University of Kansas School of Medicine. Warm moist heat was applied to the abdomen of two small and one large dog, three adults, and a child for periods of from one to three hours in a total of forty experiments, and the temperature was recorded in the colon or in an intestinal fistula. The effect of heat on intestinal contractions was noted in dogs with Thiry-Vella loops by the use of kymographic tracings.

It was determined that local applications of heat to the abdomen produce a rise in temperature within the abdomen if the abdominal wall is not too thick. Definite penetration was noted in the child and the dogs, but that in the adults

was negligible. The application of heat to the abdomen or of warm water to the intestine did not affect intestinal tone or intestinal movements.

Carlson, Hjalmar E. and Orr, Thomas G. Penetration of Moist Heat Applied to the Abdomen and Its Effect on Intestinal Movements, *Archives of Surgery*, 30:1036-1039, June, 1935.

EFFECTS OF LOSS OF SLEEP

Katz and Landis report the psychologic and physiologic findings in an experiment performed on a man who felt that sleep was merely a habit and that he could break himself of it. Ability tests in typing and intelligence tests were given him before the vigil started, and a physical examination showed him normal. A watchman's recording clock was used as a check to see that he was really awake. The vigil lasted for ten days with a few lapses into sleep which totaled only five and one-quarter hours. Tests were made at various intervals throughout the vigil to determine his physical and mental condition, and his behavior was observed. At the end of the ten days, the experiment was terminated because of the increasing irritability of the subject and his persecutory delusions in regard to some of the experimentors. His physical condition remained normal, and the tests of motor function and mental acuity gave negative results. Tests which depended on visual acuity, however, showed an impairment of general efficiency. Hallucinations, hypnagogic images, a delusion system, and disorientation occurred. Owing to the subject's desire to prove sleep unnecessary, he never complained of fatigue or hesitated to carry out the rigors of the experimental situation.

In general, it was demonstrated that in this case it was possible to go with practically no sleep for approximately ten days without any known physiologic effect and without any permanent change in the personality or the mental function.

Katz, S. E. and Landis, Carney, Psychologic and Physiologic Phenomena During A Prolonged Vigil, *Archives of Neurology and Psychiatry*, 34:307-317, August, 1935.

CEREBROSPINAL FLUID IN BRAIN TUMORS

A study of the composition of the cerebrospinal fluid in 218 cases of verified tumor of the brain was made by Hare. In 186 cases, the fluid was obtained by lumbar and in 79 by ventricular puncture. Although the study was

of little value in the differential diagnosis of tumor from other diseases of the brain, a detailed account of the findings regarding the increase of protein and globulin in the various types of tumor and its significance is presented.

Hare, Clarence C. The Cerebrospinal Fluid Obtained by Lumbar and by Ventricular Puncture in Tumors of the Brain, *Bulletin of the Neurological Institute of New York*, 4:64-69, March, 1935.

DEATH FROM ASPIRIN

Three doctors from the Rochester General Hospital and the Genesee Hospital report a case of a patient suffering from asthma who died when ten grains of aspirin were administered. The patient had twice before had severe asthma and prostration following the ingestion of small doses of aspirin. The doctors feel that death was caused by the combined effects of the severe asthmatic attacks the patient had been undergoing and the reaction to the ingested aspirin.

Francis, Nathan; Ghent, Oliver T., and Bullen, Stearns S. Death From Ten Grains of Aspirin, *Journal of Allergy*, 6:504-508, July, 1935.

PRIMARY DYSMENORRHOEA

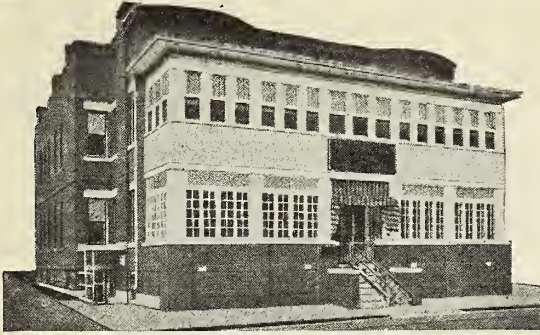
Endocrine imbalance as the most recent explanation of primary dysmenorrhoea is the subject of an article by Witherspoon. A study of the effect of Follutein on seventeen patients suffering from primary dysmenorrhoea was made and the results listed in tabular form. Follutein (1 cc.) was injected intramuscularly and daily, from three to four days previous to the expected flow, and one to two days during the flow. Thirteen of the seventeen patients so treated received relief.

Witherspoon, J. Thornwell, The Endocrine Origin of Primary Dysmenorrhoea and Its Hormonal Treatment, *Endocrinology*, 19:403-406, July-August, 1935.

DERMATITIS FROM HAIR TONIC

Goodman presents a case of dermatitis venenata from application of a proprietary hair tonic. Patch tests were made with the tonic, with its tarry residue after distillation, and with various fractions of the condensation products and of condensed oil. He concludes that a quotient of the tar, not positively identified chemically, was responsible for the dermatitis, although the patient was not sensitive to the application of pharmaceutical tar in any form available.

Goodman, Herman, Dermatitis from Proprietary Hair Tonic, *Journal of Allergy*, 6:474-476, July, 1935.



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TUBERCULOSIS

Although Gekler states that no absolute "cure" for tuberculosis has yet been discovered, he presents a discussion of Sanocrysin, gold sodium thiosulphate, as beneficial in certain conditions of tuberculosis and tuberculosis complications. He names renal damage, the appearance of albuminuria in the urine, bowel tuberculosis, and erythema as danger signals and contra-indications to the use of Sanocrysin. The gold sodium thiosulphate is administered intravenously in doses of from 100 to 150 milligrams once or twice a week until four or five thousand milligrams have been given.

Gekler, W. A. *Chemotherapy in Tuberculosis, Diseases of the Chest*, 1:19-20, August, 1935.

TREATMENT OF ACNE

Antuitrin S. was administered by Laurence and Feigenbaum to fourteen female patients suffering from acne. An initial dose of one cc. of Antuitrin S. was given to determine individual reaction. The dose was then increased to two cc. three times weekly, unless the reaction to the initial dose made it inadvisable. The treatment was interrupted three or four days before each menstrual period and resumed two to four days after menstruation ceased. In no case was there any demonstrable effect on normal menstruation. In those patients who had acne and menorrhagia or metrorrhagia, the improvement in the acne paralleled the return of menstruation to normal.

Of the fourteen patients treated, eight showed good results, four fair, and two only slight improvement. The authors feel that their series was too small to offer definite conclusions, but that it suggests that the cause of acne lies in an endocrine imbalance coincident with adolescence.

Lawrence, Charles H. and Feigenbaum, Jacob, *The Treatment of Acne Vulgaris with Pregnancy Urine Extract*, New England Journal of Medicine, 212:1213-1214, June 27, 1935.

SPINAL ANESTHESIA

The technique of spinal analgesia is presented in detail by Klein in this article which includes discussion of the history of spinal anesthesia, drugs used for this purpose, and the value of spinal anesthesia. The greatest contraindication to spinal anesthesia is an infection around the site of puncture.

Klein, K. T. *Spinal Anesthesia*, International Journal of Medicine and Surgery, 48:207-209, May-June, 1935.

THE BLACK WIDOW SPIDER

A very interesting symposium of the literature on the black widow spider is presented in the International Medical Digest. Although the author feels that no great hazard exists because of the black widow, he urges cognizance of its existence and unstinted efforts to exterminate it. The review of the literature includes descriptions of the appearance, habitat, life history, and the web of the spider, experimental studies performed concerning the bites of the spider, symptomatology, treatment, and control measures.

The Black Widow, International Medical Digest, 27:50-60, July, 1935.

BRIGHT'S DISEASE

Valuable advice to the practitioner in regard to Bright's Disease and hypertension is given by O'Hare. He defines the three principal groups—hemorrhagic or glomerulonephritis, nephrosis, and sclerosis—into which Bright's Disease is divided and limits his discussion to three types. He emphasizes the fact that there can be combinations of these three types and that each of these diseases is a generalized disorder in which the kidneys merely play a part, sometimes major, sometimes minor.

O'Hare presents several hypothetical cases and suggests many of the problems confronting doctors with patients suffering from this disease. Each of the three types of the disease is discussed with reference to treatment. He stresses the fact that the intelligent management of Bright's Disease, as well as any other disease, depends on a knowledge of the general course of the disease, a knowledge of the particular patient, and a knowledge of the therapeutic weapons. The second of these three is particularly important in Bright's Disease.

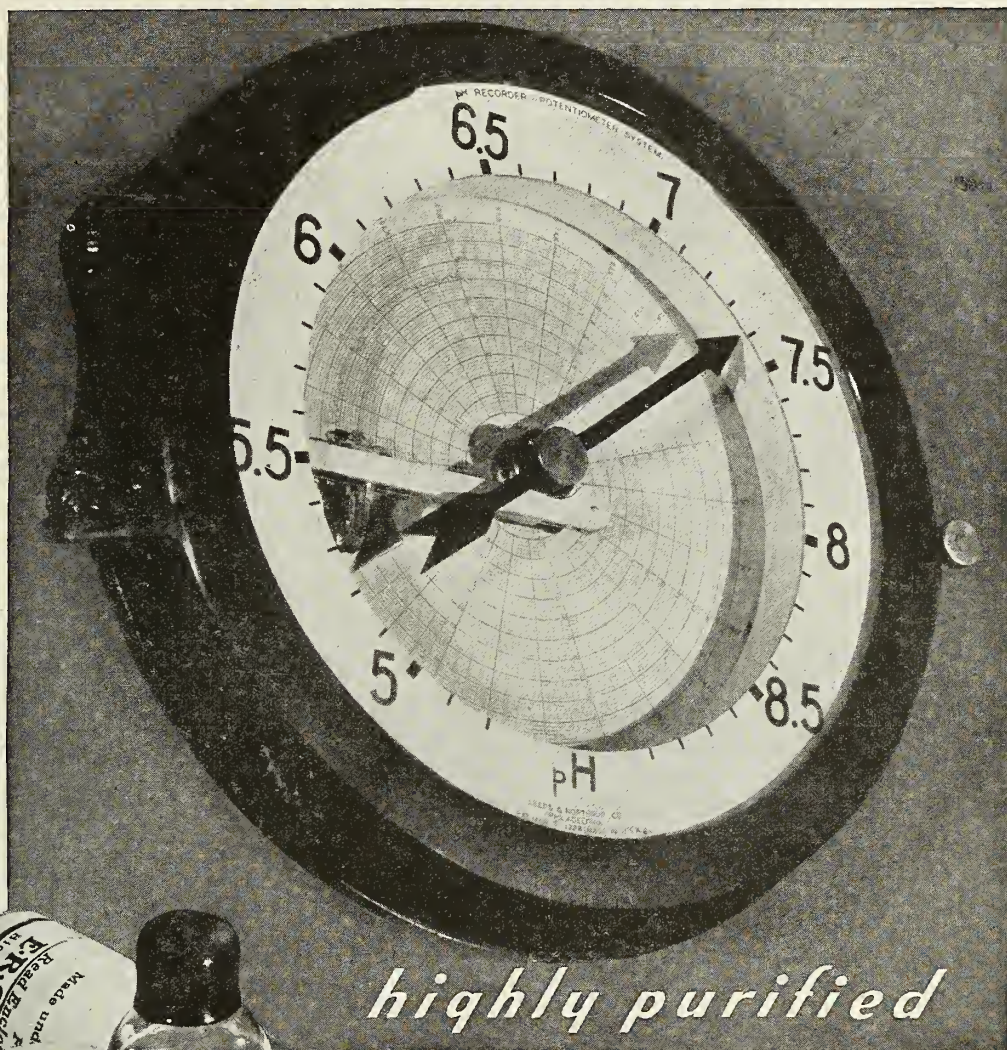
O'Hare, James P. *Management of Bright's Disease and Hypertension*, New England Journal of Medicine, 212:1197-1202, June 27, 1935.

Malignant Epithelial Tumors of the Ovaries

Continued from page 371

too small from which to draw any definite conclusions, does bear out the statistics reporting the low percentage of cures in ovarian malignancy, and illustrates the indefinite symptoms associated with this type of cancer.

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PURIFICATION of Insulin, the separation and elimination of proteinous impurities is dependent upon the precise control of "pH" (hydrogen ion concentration). The continuous automatic recording of pH values permits of far more accurate control than occasional tests. . . . This is just one of the many precautions taken in the manufacture of Insulin Squibb—noted for its uniform potency, purity, stability and marked freedom from proteinous reaction-producing substances. . . . Available in 5-cc. and 10-cc. rubber-capped vials—in usual "strengths."

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NEWS NOTES

ANNUAL REGISTRATION

The Kansas Annual Registration Law provides for registration by physicians before October 1st of each year. After that date licenses are suspended and a fee of \$5.00 is charged for reinstatement. If you have not registered for 1935 an application should be forwarded to Dr. C. H. Ewing, Larned, Secretary of the Board of Medical Registration and Examination.

SOCIALIZED MEDICINE DEBATES

The official question selected by the National University Extension Association Debate Committee for inter-scholastic debates in 1935-36 is as follows: "Resolved: That the several states should enact legislation providing for a system of complete medical service available to all citizens at public expense." This will mean that more than one hundred thousand students in high schools, colleges, and universities throughout the country will this fall be engaged in research on topics of socialized medicine and in presentation of such information to large audiences.

The effect of these debates upon public opinion is obvious, and it is believed that the medical profession can be of assistance in pointing out fallacies and difficulties that exist in socialized systems. There is also need for activity on the part of the profession inasmuch as the various Foundations interested in socialized propaganda are carrying on extensive campaigns to assist the affirmative phase of the question.

With this thought in mind, the Council in a meeting on July 28, requested that the Medical Economics Committee assemble suitable information for release to Kansas high schools and colleges. Approximately 200 individual packets containing pamphlets entitled: "A Critical Analysis of Sickness Insurance," "Sickness Insurance Not the Remedy," "Sickness Insurance Catechism," "Some Defects in Insurance Propaganda," "An Introduction to Medical Economics," "Health Insurance in England and Medical Society Plans in the United States," "Sickness Insurance, State Medicine and the Costs of Medical Care," "Collecting Medical Fees," "Contract Practice," "The Costs of Medical Education," "Group Practice," "Some Phases of Contract Practice," "New Forms of Medical Practice," "Prepayment Plans for Hospital Care," "Group Hospitalization Contracts are Insurance Contracts," "Distribution of Physicians in the United States" and "Medical Relations Under Workmen's Compensation," and a bulletin by the Committee outlining other information will be forwarded on September 1.

Also members of the Society will be requested to offer assistance to both affirmative and negative debaters in analyzing material and in criticism of papers.

SOCIAL SECURITY ACT

The medical profession throughout the country has been tremendously interested in certain portions of the

Social Security Act recently passed by Congress. This act, among other things, provides \$8,000,000 to be appropriated to the various states for aid in public health service; \$3,800,000 for advancement of maternal welfare and child health; and \$2,850,000 for assistance to crippled children. The health service function will be under supervision of the United States Public Health Service and contemplates individual county and city units composed of full-time physicians, visiting nurses, sanitation officers, and clerks. A sizable portion of the first year's appropriation is to be devoted to the development of these units and to training of personnel. Additional portions of the fund will be used for investigation of special health problems, epidemics and other studies. The maternal welfare, child health, and crippled children's program will be directed by the Children's Bureau of the Department of Labor, and full-time units are expected to provide prenatal, infant and pre-school assistance; permanent and itinerant conferences; school health services including physical examinations and educational programs; health services to employed children and nursing for mothers and children.

State boards of health will assist local supervision, in every state. The Kansas State Board of Health has commenced study of possible projects for use of the Kansas portion of these funds and through request of Dr. Earle G. Brown, Secretary, an Advisory Committee has been established composed of representatives from the medical, dental, hospital, and nursing profession of this state. Dr. B. A. Nelson, Manhattan, and Dr. F. L. Loveland, Topeka, have been appointed by Dr. J. F. Hassig to represent the Society in this connection.

The Medical Economics Committee is also presently engaged in a study of the provisions of this act and hopes to lend assistance in shaping the Kansas program.

MATERNAL WELFARE COMMITTEE

Pursuant to action taken by the House of Delegates at the last state meeting, Dr. J. F. Hassig recently appointed a committee on Maternal Welfare. The members are as follows: Dr. John L. Grove, Newton; Dr. Charles H. Jameson, Hays; Dr. Roy D. Russell, Dodge City; and Dr. J. H. Peck, St. Francis. It is intended that this committee will operate in a similar manner to the Cancer Committee and that it will be particularly active in co-operating with the maternal welfare and child assistance program provided by the Social Security Act.

CANCER COMMITTEE MEETING

The Cancer Committee held a meeting on July 31 at Ottawa. A project was discussed wherein district meetings would be held this fall in strategic towns of the state for presentation of cancer lectures by several prominent out-of-state speakers to members of the Society. Decision was made that the project should be contemplated, and that investigation should be made as to possibilities for arrangements and financing.

MEMBERS

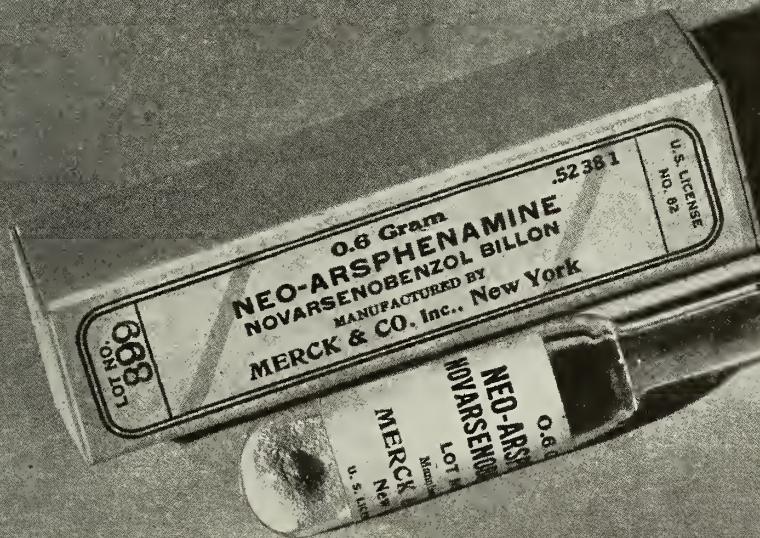
Dr. J. F. Hassig recently appointed Dr. O. P. Davis, Topeka, to serve in his place as an active member of the

THE TREATMENT OF EARLY SYPHILIS

Basic Principles suggested by
Five University Clinics in collaboration
with the U. S. Public Health Service

- The use of an arsphenamine as the foundation of the treatment.
- The use of a heavy metal as an adjuvant (preferably bismuth intramuscularly).
- Continuation of treatment without a rest period for a period of a year after all symptoms and signs of the disease have disappeared.

The use of Neo-arsphenamine Merck in the Continuous Method of Treatment may be relied upon to produce satisfactory results.



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Please send me detailed information relative to THE CONTINUOUS METHOD OF TREATMENT FOR EARLY SYPHILIS
and a sample of

NEO-ARSPHENAMINE MERCK

NAME _____ M. D. _____ CITY _____

STREET _____ STATE _____

Committee on Revision of Constitution and By-Laws. Dr. Hassig will continue as an ex-officio member.

Dr. Charles F. Attwood Topeka, left July 21 for a trip to Europe where he will do some work in medical research and observation in the London and Paris hospitals. He will also go to the medical exhibits at the Brussels exposition.

Dr. O. W. Davidson, Kansas City, has the honor of being elected to active membership in the American Urological Association at the annual meeting of the organization held recently in San Francisco. There are four other members in Kansas.

Dr. Harold O'Donnell, Ellsworth, has moved to Wichita, where he will be associated with Dr. G. B. Morrison, in the Schweiter Building.

Dr. H. E. Robbins, Belleville, has moved to Denver, Colorado, where he will become a resident surgeon in the Chicago, Rock Island, and Pacific Railway hospital of that city.

Dr. H. C. Sartorius, Garden City, gave a talk on "County Health" before the members of the Rotary club in Garden City on July 24.

TRY of A.M.A. for 1934. Published by the American Medical Association at \$1.00 per copy.

NEW AND NON-OFFICIAL REMEDIES for 1935. Published by the American Medical Association at \$1.50 per copy.

THE DOCTOR AND THE PUBLIC by Dr. James Peter Warbasse. Published by Paul B. Hoeber, New York, at \$5.00 per copy.

LIVING ALONG WITH HEART DISEASE by Dr. Louis Levin, cardiologist to St. Francis Hospital and the New Jersey State Prison Hospital, New Jersey. Published by the MacMillan Company, New York, at \$1.50 per copy.

A SYNOPSIS OF REGIONAL ANATOMY by T. B. Johnston, M.B., professor of anatomy, University of London, Guys Hospital Medical School. Published by Lea & Febiger, Philadelphia.

LABORATORY DIAGNOSIS, Second Edition, by Dr. Edwin Osgood, assistant professor of medicine and biochemistry, University of Oregon School of Medicine. Published by P. Blakiston's Sons & Company, Philadelphia, at \$6.00 per copy.

CLINICAL DIAGNOSIS BY LABORATORY METHODS Eighth Edition by Dr. James Campbell Todd, late professor of clinical pathology, University of Colorado, School of Medicine and Dr. Arthur Hawley Sanford, professor of clinical pathology, University of Minnesota. Published by the W. B. Saunders Company, Philadelphia, at \$6.00 per copy.

MORBIDITY REPORT

New communicable disease cases in the state as compared with last month are reported by the Kansas State Board of Health as follows:

Disease	Month ending August 3	Month ending July 6
Whooping cough	264	310
Measles	169	769
Pneumonia	159	268
Tuberculosis	155	87
Syphilis	123	75
Mumps	118	269
Gonorrhea	96	37
Scarlet Fever	85	116
Typhoid Fever	63	20
Chickenpox	22	84
Influenza	20	47
Diphtheria	20	25
Undulant fever	19	11
Smallpox	18	76
Malaria	17	3
German Measles	11	91
Erysipelas	11	3
Meningitis	10	5
Cancer	9	3
Tetanus	6	1
Vincent's angina	5	2
Poliomyelitis	2	2
Encephalitis	1	2
Pink-eye	1	0

LOCATION

A letter has been received from Mr. J. E. Kingsley, of Windom, Kansas, stating that there is no physician in that town, and that a good opportunity is available. Windom is a town of 250 population situated in McPherson County. Additional information may be obtained from Mr. Kingsley or from the central office.

COUNTY SOCIETIES

Members of the Brown County Medical Society held a meeting on August 30 in Hiawatha with Dr. F. L. Loveland, Topeka, as the guest speaker. A dinner at the Hiawatha Country Club was followed by a meeting at the Court House, where Dr. Loveland discussed the Kansas Medical Society Plan for the medical care of direct relief and work relief families.

A regular quarterly meeting of the Dickinson County Medical Society was held on July 24 in Hope following a dinner. Dr. L. G. Heines, Abilene, read a paper on "Diseases of Coronary Arteries" and Dr. Theodore Kroesch, Enterprise, read a paper on "State Medicine".

The Franklin County Medical Society held a meeting on July 31 in Ottawa at the Ottawa Country Club. Golf in the afternoon was followed by a dinner at the clubhouse. Members of county societies in the surrounding

NEW BOOKS RECEIVED

ANNUAL REPRINTS OF THE REPORTS OF THE COUNCIL ON PHARMACY AND CHEMIS-

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THE OKLAHOMA CITY CLINICAL SOCIETY'S SIXTH ANNUAL FALL CLINICAL CONFERENCE November 4, 5, 6, 7, 1935

Sixteen Distinguished Guest Lecturers:

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Head of Dept. Obs. & Gyn., Chicago Lying-in
Hospital
DR. HARRY L. BAUM, Oto-Laryngology, Denver
Staff of Presby., Childrens, and Denver General
Hospitals
DR. BARNEY BROOKS, Surgery, Nashville
Prof. of Surgery, Vanderbilt Univ. Hospital
DR. JAMES T. CASE, Radiology, Chicago
Prof. of Radiology, Northwestern Univ. Med. Sch.
DR. JOHN R. CAULK, Urology, St. Louis
Prof. of Clin. G-U Surg., Washington Univ. Sch.
of Med.
DR. MAX CUTLER, Surgery, Chicago
Tumor Clinic, Michael Reese Hospital
DR. PALMER FINDLEY, Gynecology, Omaha
Attending Gyn., Swedish Mission and Methodist
Hospitals

DR. FRED J. GAENSLEN, Orthopedics, Milwaukee
Prof. of Orth. Surg., Univ. of Wisconsin Med. Sch.
DR. CLIFFORD G. GRULEE, Pediatrics, Chicago
Prof. Pediatrics, Rush Med. Coll., Univ. Chicago
DR. RUSSELL L. HADEN, Internal Med., Cleveland
Chief of Medicine, Cleveland Clinic
DR. JAMES S. McLESTER, Int. Med., Birmingham
President American Medical Association
DR. GRIER T. MILLER, Int. Med., Philadelphia
Asst. Prof. of Med., Univ. of Pa. Sch. of Med.
DR. C. S. O'BRIEN, Ophthalmology, Iowa City
Prof. of Ophthal., Univ. of Iowa Sch. of Med.
DR. PAUL A. O'LEARY, Dermatology, Rochester
Head of Dept. of Derm. and Syph., Mayo Clinic
DR. FRED W. RANKIN, Surgery, Lexington
Former Prof. of Surg., Univ. of Louisville
DR. RALPH M. WATERS, Anesthesia, Madison
Prof. of Anesthesia, Univ. of Wisconsin Med. Sch.

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ROUND TABLE LUNCHEONS

EVENING SYMPOSIA

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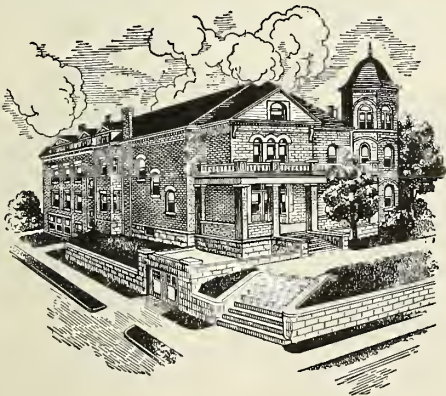
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Telephone, Victor 4850

towns were guests of the members of the Franklin County Society. Dr. H. L. Snyder, Winfield, spoke on "Cancer and Its Relation to the General Practitioner".

Members of the Labette County Medical Society and their wives held a picnic at the home of Dr. M. C. Ruble in Parsons on July 31. After the picnic, medical motion pictures were shown.

PUBLIC HEALTH

A brief study has recently been completed of the deaths of 170 Kansas physicians, reported in the past four years. Chronic myocarditis was the leading cause with 27 deaths; cancer and chronic nephritis were second with 16 each; diabetes and coronary thrombosis were fourth with 13 each; cerebral hemorrhage was sixth with 12; angina pectoris and external violence were seventh with 11 each. Accidents were responsible for seven deaths and suicides and homicides two each. Motor vehicles were the cause of five of the seven accidental deaths.

Excluding deaths from violence, the average age at death was 67.3 years. The youngest was 35 years and died as a result of influenza-pneumonia infection. The oldest was 96 years, death due to a chronic myocarditis. Forty-two were under 60 years at the time of death. Thirty-six deaths were in the age group 65-69 years; 25 were in the group 60-64 years; 23 were 75-79 years; 22 were 55-59 years, and 21 were 70-74 years.

An average of 38.6 years had elapsed from the time of graduation to the time of death. The least time in practice was 4 years, death being due to miliary tuberculosis. Two physicians had graduated from medical school 69 years and both were retired at the time of death. Nineteen physicians were reported to have been retired from active practice for a period of one or more years.

Again excluding deaths from external violence, 61 deaths were attributed to diseases of the cardiovascular system, or 41 per cent. Of the 20,011 deaths reported in the state in 1934, only 25 per cent were due to cardiovascular disease. In this year for the state, organic heart disease was the leading cause; cancer was second; apoplexy third, accidents fourth, and chronic nephritis fifth. Among physicians for the four years, cancer and chronic nephritis were tied for second, and cerebral hemorrhage was sixth.

Although the number of deaths studied was comparatively small, the findings show the apparent result of the strenuous life of the average practitioner of medicine. "The anxieties and stresses of medical practice, irregularities in dietary habits, the disturbed rest and the multifarious activities of the busy practitioner tend to exhaust the cardiovascular apparatus" . . . "Longevity is an art as well as a science. The art consists in practicing a reasonable adaptation to environment and adherence to the laws of hygiene based on a knowledge of oneself and one's needs."

Do You Know—That 488 cases of poliomyelitis were reported in the United States for the week ending August 10?

That in the past 11 weeks only seven cases of poliomyelitis were reported in Kansas; 28 in the same period of 1934?

That two deaths have been reported from tularemia in the present year?

That 221 measles deaths have been recorded to August 1; 31 in the same months of last year?

That 13 typhoid fever deaths have been reported in the seven months of the present year; 8 in 1934?

That in the 11 weeks ending August 17, 132 cases of typhoid fever were reported, 14 less than in the same months of 1934?

That the United States 1934 infant mortality rate was 59.5?

That the Kansas 1934 infant mortality rate was 48.4?

That 21 diphtheria deaths have been reported in the seven months of 1935; the same number as in 1934?

That malaria cases are showing a definite increase this year over the numbers reported in preceding years?

In compliance with an act of the 1935 legislature, the state board of health is now preparing convalescent serum for the treatment of poliomyelitis cases. The serum is supplied in 25 cc. ampoules, at a cost of \$4 per ampoule. Serum may be secured at the following sub-stations, in addition to the Topeka office:

Johnson Hospital.....	Chanute
Bellamy Drug Store.....	Colby
St. Joseph Hospital.....	Concordia
Kuhn Drug Store.....	Dodge City
Pearl's Drug Store.....	Garden City
St. Rose Hospital.....	Great Bend
First National Pharmacy.....	Wichita

The 64th Annual Meeting of the American Public Health Association will be held at Milwaukee, Wisconsin, October 7-10, inclusive.

The Advisory Commission of the State Sanatorium for Tuberculosis held a meeting at Norton on August 13. Dr. H. L. Snyder was named as Chairman, and Dr. F. L. Loveland, of Topeka, Secretary.

In the 1934-35 list of licensees issued by the Kansas Board of Medical Registration and Examination are the names of 49 women doctors of medicine, eligible to practice in the state.—Furnished through the courtesy of the Kansas State Board of Health.

ANNOUNCEMENTS

THIRTEENTH ANNUAL FALL CLINICAL CONFERENCE OF THE KANSAS CITY SOUTHWEST CLINICAL SOCIETY

The Thirteenth Annual Fall Clinical Conference of the Kansas City Southwest Clinical Society will be presented in Kansas City, Missouri, October seventh through tenth. The entire scientific program will be presented in the President Hotel with morning, afternoon and evening sessions.

Guest speakers, who will each present two or more scientific subjects, include Dr. Fred Albee of New York City; Dr. John Alexander of Ann Arbor, Michigan; Dr. Wayne Babcock of Philadelphia; Dr. Harlow Brooks of New York City; Dr. Arthur C. Christie of Washington, D. C.; Dr. Alfred Folsom of Dallas, Texas; Dr. Harry S. Gradle of Chicago; Dr. Francis E. LeJeune of New Orleans; Dr. Wm. S. Middleton of Madison, Wisconsin;



"Hurry, Jimmie, or you'll be late for school again. Mother forgot to set the alarm clock. Please don't DAWDLE like that. Here, take your bun and eat it on your way to school. HURRY, darling, teacher will have a fit! PLEASE hurry!"

THE milk is the best item in this child's hurried, harried, worried breakfast, but milk alone is inadequate. The simple replacement of the bun or roll by Pablum would, with added milk, give the child a better-constituted and more nourishing meal on which to start the day right at school. Pablum can be prepared appetizingly, in a few seconds' time, without cooking.

THE LAST-MINUTE BREAKFAST

“Going to school on an empty stomach”

—not because his parents are poor or illiterate, but because his mother didn't allow sufficient time for an adequate, nourishing morning meal.

This scene occurs every morning in thousands of homes, and many a school child is a poor scholar because of a poor breakfast.

For little boys and girls* whose mothers don't get up early enough in the morning, or who can't figure time accurately, a good, nourishing, well-constituted, economical and *quick* morning meal is:

- | | |
|------------------------------|----|
| Orange Juice or Tomato Juice | qs |
| Pablum & milk or cream | qs |
| Sugar | qs |
| Capsule, Mead's Viosterol | I |
| in Halibut Liver Oil | |
| More Milk | qs |

Such a breakfast supplies important amounts of all the following essential nutritional requirements: Protein, ✓ Fat, ✓ Carbohydrate. ✓ Vitamins: A, B, C, D, E, G. ✓ ✓ Minerals: Calcium, Phosphorus, Iron, Copper, Etc., Etc. ✓ ✓ ✓ Calories. ✓

PABLUM can be prepared in less than a minute and does away with pots and pans and endless overnight and early-morning cereal cookery and drudgery. Simply add milk or water of any desired temperature and serve with cream, salt and sugar.

[Pablum (Mead's Cereal thoroughly pre-cooked by a patented process) consists of wheatmeal, oatmeal, cornmeal, wheat embryo, alfalfa leaf, beef bone, brewers' yeast, iron salt, sodium chloride. Mead Johnson & Company, Evansville, Ind.]

*and perhaps also for their fathers who have to gulp a one-minute breakfast before going to work.

Dr. M. G. Peterman of Milwaukee, Wisconsin; Dr. Edward A. Schumann of Philadelphia; Dr. Albert Soiland of Los Angeles, and Dr. Cyrus C. Sturgis of Ann Arbor, Michigan.

Scientific papers will also be presented before the General Assemblies by seventeen members of the society. In addition, two hours will be devoted each morning to Sectional Lectures and Clinics, presented by members of the society. Six sections and two clinics will be presented concurrently on non-conflicting subjects.

Scientific and Technical Exhibits will be housed on the convention floor of the hotel and will be open to visitors daily.

The Public Meeting will be held Monday evening in the Ararat Shrine Temple. This meeting will be open to the public with Dr. Harlow Brooks, Dr. Arthur Christie and Dr. Albert Soiland each bringing a message of special interest to the laity and the profession.

The scientific session of Tuesday evening will be complimentary to the members of the local county medical societies as well as all registrants for the conference. Speakers will be Dr. Wayne Babcock, Dr. Harlow Brooks and Dr. Arthur C. Christie.

Each day's Round Table Luncheon will afford an additional opportunity for the doctors to hear informal talks by guest speakers. Tuesday's luncheon will be a testimonial to John Fairbairn Binnie, with a talk by Dr. Wayne Babcock. The luncheon on Wednesday will be a memorial to Jabez North Jackson.

Wednesday evening's entertainment will include a tour of the Wm. Rockhill Nelson Gallery of Art, which will be complimentary to the doctors and their families.

The women's committee have arranged various features of entertainment all of which will be complimentary to the wives of the physicians registering for the Fall Conference. A special registration desk and social calendar will be available for the visiting women.

The closing feature of the four days intensive meeting will be the Alumni Dinners. An added feature will be the Clinical Society dinner which will be for men and women.

—KMSJ—

Work is being commenced on the Fourteenth edition of the American Medical Directory. The American Medical Association requests that all members forward corrections or other information that should be included, and that delinquent members and eligible non-members be advised in order that they may have an opportunity to be listed as members.

—KMSJ—

The American Congress of Physical Therapy will hold its fourteenth annual scientific and clinical session in Kansas City, Missouri, on September 5-12 inclusive. The Instruction Course will last from September 5-7 and the Annual Session will last from September 9-12. Full information may be obtained by writing to the American Congress of Physical Therapy, 30 North Michigan Avenue, Chicago, Illinois.

—KMSJ—

The Fifth Convention of the Biological Photographic Association will be held in Chicago, Illinois in the Stevens Hotel on Thursday, September 12-14. The registration fee is \$3.00 and will include a banquet ticket.

"NATUREIZING"

Reproduced below in verbatim form are two circulars now being distributed by a Kansas chiropractor. The miracles of "vertebral subluxation" apparently have no end:

Specializing in
Natureizing
Women

Dear Madam:

To a select list of — business women I am introducing the method of natureizing which has to do with the duration of the period of menstruation.

The naturize method tends to normalize women not eliminating the monthly period but by shortening the duration to correspond with that of our primitive sisters. The duration of the period of primitive women is less than one day monthly. We can now be as they are in this respect.

Did this question ever arise in your mind—How is it possible for actresses and circus performers to carry on their work daily during menstruation? The secret lies in the fact that they have been natureized and the menstruation period lasts but from two hours to only one day each month.

"Habit cycles are born and bred in the bones"—Through superstition women have been taught that menstruation is a sort of curse sent on them. This is one "Great Cyclic Error"—Menstruation is a Pathological rather than a Physiological act. The cycle can be broken by natureizing.

Natureizing is done by drugless therapy, is harmless and conducive to good health. It requires but a few minutes time during menstruation period.

Dr. Starrwhite who has the largest personal practice of any doctor in the U. S. has been natureizing women for over 50 years. I am now making his method available to you.

Many a public woman has been so handicapped by this function being abnormal or unnatural that they have stepped down and let inferior men take their places. This is no longer necessary.

Do not condemn before you investigate this method perhaps there is still more to be learned about this subject.

Sunday appointments for Professional Women—
Write or phone.

Dear Madam—

How to restore natural function by Drugless Therapy is nature's safest method.

In a 3 to 5 day menstruation period of civilized woman natural? while the period of primitive woman is less than one day—We say No—even without changing our mode of living back to that of the primitive state it is possible to overcome the excessive long duration of the period and reduce it to from 2 hours to one day per month.

Actresses and many of the most prominent women in the U. S. have been Natureized is how they keep physically fit to carry on their work daily without hindrance of the menstruation period.

For the average woman Natureizing requires but 15 minutes time each day for 3 days each month while changing and establishing the habit of the shorter period.

Natureizing does not hasten menopause—menopause is practically without nervous phenomena in women



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Nervous and Mental Diseases and Allied Conditions

A private Neuro-psychopathic Hospital conducted by the Sisters of Mercy, provides thorough diagnosis, scientific treatment, modern and complete equipment, individual and personal professional attention.

Supervised occupational and recreational activities. The Hospital is surrounded by spacious woodland and landscaped grounds. Reports sent regularly to recommending physicians and relatives.

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EXCHANGES

Doctor-Baiters—The doctor, as Mr. Ogden Nash pointed out some time ago . . . is the first person to be called in time of trouble and the last person to be rewarded even in a period of prosperity. For half of their calls most doctors are never paid. And this prodigious service is accepted as a matter of course. It is taken for granted. I might say that it is even demanded, and demanded with indignant insistence.

For a recent check-up of my friends reveals that many of them criticize, deplore and even despise the medical profession. Some of them do so because a certain doctor has made what appeared to be an error in a particular case. Others take a haughty attitude toward the profession because it cannot cure cancer or hardening of the arteries or something else equally abstruse and fatal. It is futile to recite to those uncharitable nitwits the hundreds of ailments and diseases which medicine and surgery can cure or have obliterated. Still other people—legions of people—are staunch supporters of one or another form of quackery and they chart their health on idiot diets or systems of bone-tweaking.

Now I know, more or less intimately, about a hundred doctors, surgeons and biological research workers. Among them all there is not a single one who is unwilling to change his opinion in the face of new discovery, more lucid theory or improved technique. That is more than can be said of their patients. The run-to-the-mill human dope who is brought up to believe that kerosene is good for colds will go on believing it to his grave. And almost any layman ambling along the street thinks that it is his divine right to argue with a doctor. The fact that the doctor really knows something about the human carcass means nothing to him.

He would not think of starting a debate with an engineer about the best method of bracing a bridge. He generally runs his car meekly into a garage and tells the mechanic that it makes a funny noise when you shift gears. But he will gleefully reject the orders of his doctor and supplant them with some nut scheme of his own. “Medicine,” he will say pompously, “is not an exact science.” Neither is garage trouble-shooting—but you let a mechanic do it.

The doctors have to stand for that. The Constitution guarantees to every man the right to make a fool of himself. And yet, if the common law, which makes an attempt at suicide a crime, were extended logically, it would clamp down on a few million citizens who are making chumps of themselves in the matter of self-preservation.

In such intellectual fields as religion, one man's opinion may be as good as another's—although I myself am inclined to doubt even that. But in the subject of medicine, a mug's notions are not as good as a doctor's knowledge.

And generally the self-swollen jape who is loudest in the disparagement of doctors, is the bearer of an appendix scar or the survivor of pneumonia via serum or perhaps malaria via quinine.

There is no logical reason to explain the fact that a certain group of high-minded young men and women decide that they will devote themselves to the unpleasant business of tending the sick, often without reward, often at gruesome hours on icy streets, often when the act entails grave personal dangers. If logic were applied to the matter, your doctor would be like the light company, and if the bills were not paid on time he would send a brief note informing you that medical attention was suspended and you could die quietly—or noisily—alone.

If a doctor did such a thing the nation would lift its hands in horror. The light companies do it every day.

And yet there has never been a group of people in the history of the world which equalled the men of the contemporary medical profession in their balance of ideals and sense. The doctors martyr themselves oftener and more nobly than any zealots or fanatics. They hold the highest possible code of emotional altruism. And underlying it is a superb sanity, a stern adherence to realism, honesty, scientific truth.

If the amateur critic of doctors could only know what an errant fool he was he would stop in mid-speech, shocked and apologetic—but, as in all matters, to understand the depth of his folly he would have to be wise enough not to be such a jackass in the first place.—Article by Philip Wylie, published in the New York American and Westchester Medical Bulletin.

Social Workers—Professional social workers, no less than tax collectors, have been liberally provided with employment during the past six years. Washington is overrun with short-haired women and long-haired men most of whom have been provided with jobs. These “workers” speak a strange jargon of man-hours, case-loads, indices, and like technological phrases that glorify the occupation. It is rumored with increasing frequency that professional social workers are more concerned with perpetuating their jobs than they are in seeing any lift in the depression. A commission investigating relief in New York City minced no words in a report last week charging that those who were doling out relief liked the job and didn't like the idea of having it taken away from them. We can understand the aversion of a case-worker to becoming a part of the case-load. The kindly attitude of the administration toward professional social workers has aroused the ire of thinking men and women the country over. The Government, it is said, has a larger responsibility than doling out tax dollars in direct relief and perpetuating a tremendous bureaucracy. While it is recognized that men and women must not starve, it is felt that there is little that the dole-minded relief workers have done other than temporarily ameliorate suffering and spend millions of tax dollars.

The American people, who can't be fooled all of the time, is regarding doled-out relief questioningly. It knows that millions of unemployed and underpaid Americans cannot subsist indefinitely upon public charity, and it is fast coming to the realization that a new economic order is the only alternative to increasing want. When that new economic order comes and the worker can retain all his wages, capital all its interest, and all public service will

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be paid for by the collection of the rental value of land, there won't be any call for professional social workers and the glib chatter of case-loads and man-hours will be forgotten.—Labor Herald, July 20, 1935.

The Infamous Brinkley—It is reported by the Kansas State Medical Association Journal that J. R. Brinkley has lost his license to practice medicine in that state. The Board of Medical Registration revoked it and had to defend their action in court. Judge Johnson in rendering a decision had the following to say:

"These methods are not only notoriously in conflict with the ethics of the profession, but in my opinion, in conflict with the best interests of the public, and irrespective of the value of the operations performed by him at the hospital for the amelioration of the prostate gland, or the benefits to individuals using prescriptions given them through radio broadcasts. The possibilities of injury

to the general public resulting from such methods are so apparent that its mere statement is sufficient."

No doubt Judge Johnson's decision will strengthen the authority not only of the Board of Examiners of Kansas, but of other states as well, in protecting the public from quacks and charlatans in the future besides giving judicial sanction to such of our medical ethics as are opposed to advertising and promiscuous prescribing.—Southwestern Medicine.

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EXPERIMENTAL SURGERY OF THE KIDNEY

OSWALD SWINNEY LOWSLEY, M.D.*

New York City

Introduction—Repair of operative and other wounds of the kidney have not been accomplished with the greatest efficiency in the past. Every surgeon has a hesitancy about suturing a spongy organ, such as the kidney, for the purpose of producing haemostasis or repair by means of a mattress suture or otherwise because the vessels are terminal and such a suture results in cutting off the blood supply of a wedge shaped area extending from the site of the suture to the cortex of the organ. This results in necrosis and the final production of a scar which may destroy as much as 25 per cent of the entire functioning tissue of the kidney if the wound is a large one.

There are many experiments being conducted, utilizing methods proposed by the author upon the spleen, liver and other organs, but this report will be confined to surgery of the kidney.

Literature—Some of the principles involved in the new operations proposed by the author have been suggested before. Dr. O. S. Fowler, in Denver in 1914 suggested the use of straps of kidney capsule to hold strips of fascia lata in position in the repair of renal wounds. Dr. D. R. Melen of Rochester, N. Y., also utilized this idea in 1933. Dr. A. E. Goldstein of Baltimore proposed not to use any suture at all, but merely to create manual pressure on the kidney for the purpose of hemostasis. This procedure seems to the author to be a little bit dangerous, as hemostasis is not assured nor is the approximation of the kidney surface, thus making healing without the formation of urinary fistula questionable.

The splendid work of Irving Koll on the utilization of fat as an hemostatic agent was done in 1921 and has not been improved upon. The author has utilized bits of muscle and pieces of fat in the same kidneys under identical conditions and noted that the former took 16 to 21 minutes to control bleeding, while the fat averaged $\frac{3}{4}$ to $1\frac{1}{2}$ minutes. The many experiments performed by us lead to strong support of the method proposed by Koll.

Experimental Work—In the first series of animals (*) operated upon, rabbits were utilized. The margin of anesthetic safety was so slight and the kidneys so small they were soon given up and dogs substituted. They have proved to be quite satisfactory. Their kidneys, while much smaller than the human, are large enough to accomplish the surgical measures involved, and they stand confinement quite well indeed.

There is marked destruction of the cortex of the kidney when a nephrostomy wound is repaired in the old manner by means of mattress sutures. It is noted that the scar has contracted and it is estimated that at least 25 per cent of the functioning renal tissue is destroyed.

Protocols of animal experiments have already been published and may be consulted in the article published in *Surgery, Gynecology and Obstetrics*, October, 1933, Vol. LVII, 494-500.

Description of Operation upon Humans—The patient is placed on the opposite flank with a sand bag or bridge to put the loin on a stretch and is then fixed in position by two long bands of wide adhesive plaster pulled over hip and shoulder and attached to the table. In kidney surgery the position of the patient is exceedingly important and many types of mechanical apparatus have been suggested, but the

*Department of Urology (James Buchanan Brady Foundation) of the New York Hospital.

*The first suggestion regarding the use of a flat ribbon type of cat gut in the repair of kidney wounds was made to the author by the renowned medical artist, Mr. W. P. Didusch of Baltimore, to whom grateful thanks are hereby accorded.

proper application of adhesive straps has proved to be the simplest and best method ever tried or seen by the author.

We prefer some form of local or regional anesthesia, and feel that any type of such anesthesia is preferable to any type of general in kidney surgery.

The kidney is exposed in the usual manner, mobilized, and delivered. A short, flat, slightly curved spear pointed needle (*) into which ribbon gut has been threaded is then fixed in the proper position by passing it through the fibrous capsule of the kidney. This method is quicker and better than the one first proposed by the author. Having placed the ribbon gut, an incision is made through the cortex of the kidney, the calculus or calculi located and extracted. A drainage tube is then inserted into the kidney pelvis, hemostasis having been produced by manual pressure on the pedicle by an assistant. A piece of fat suitable to the size of the renal wound is inserted and held in position, while the ends of the ribbon gut are tied with just sufficient pressure to bring the edges of the wound together. If too much pressure is used, necrosis will occur and is to be avoided as it is entirely unnecessary.

The drainage tube is fixed in position by inserting an ordinary cat gut suture through the edge of the ribbon gut and tying it around the tube. This operation has been performed upon many cases of stone in the kidney pelvis. Some of these calculi have been very large but attention is called to the fact that almost any stone may be removed by means of a polar incision and this type of wound is more easily repaired than a central cortical wound.

Nephropexy—At the author's suggestion, the manufacturers (†) have produced a "three week" chromic ribbon gut which has been most satisfactory. It has a large curved atraumatic needle fixed at one end of the material and is useful in performing nephropexy and has been utilized by the author in herniotomy as well.

We are of the opinion that nephropexy should be done more often than it has been of late. The operation fell into disrepute because many surgeons were doing it when not indicated. It is our opinion that nephropexy should not be done when there is enteroptosis, because

in such cases there is so much sagging of all the tissues that if the kidneys are fixed high up there will result a painful pull which may add to the patient's discomfort.

In those cases in which one kidney has dropped, causing a kink of the ureter or other obstruction, and upon whom a supportive belt has been tried for a considerable time (we use one year as a standard) without relief of symptoms, it seems perfectly proper to attempt relief by nephropexy.

One method of performing this operation follows:

The kidney is exposed and liberated in the usual manner.

Chromic ribbon gut with an atraumatic needle attached at one end is fixed around each pole of the kidney by means of the Lowsley ribbon gut needle being passed through the fibrous capsule at suitable intervals.

These two ribbons are first tied around each pole of the kidney without pressure slightly ventral to the cortex and then the free ends tied to each other. The fibrous capsule is then incised and stripped back to increase adhesion to the skeletal wall. The needle of the upper ribbon is then passed above the 12th rib and tied to the other end, care being taken to pull the organ sufficiently high so that the ureter which has been dissected free, is on a slight stretch. The needle of the lower ribbon is then passed through the quadratus lumborum muscle to further fix the organ. The wound is closed in the usual manner without drainage.

Heminephrectomy—Heminephrectomy is an operation which is not frequently performed as the pathological conditions requiring its use are rare. Such conditions do occur, however, and a safe method is proposed to be utilized in cases of cyst of one pole of the kidney, destruction of a part by stone or non tuberculous disease or other unusual conditions making such an operation advisable. There are occasions in which a heminephrectomy in case of tuberculosis of the kidney seems advisable, but the author has attempted this procedure on several occasions and in each instance has had to do a secondary nephrectomy.

In performing a heminephrectomy, the kidney is isolated and the line of incision decided upon. Ribbon gut, properly moistened, is then inserted through the fibrous capsule of the kidney behind the point of incision at two or three points as seems necessary. A V shaped incision is then made through the pole of the kidney to

*This needle was suggested to the author by Dr. A. E. Sellings, to whom the author is most grateful.

†The officials of Davis and Geck have been most anxious to cooperate with the author in modifying the ribbon gut to meet the needs of our surgical procedures, and the author wishes to express his thanks for their kindness.

be removed, the point of the V being toward the center of the organ. Haemostasis is accomplished by pressure on the pedicle by the fingers of a sturdy assistant. As soon as the portion of the kidney to be removed is excised, a suitable piece of fat is buttered on the cortical surface thus exposed, and the ends of the ribbon gut are tied together with sufficient pressure to control bleeding and not tight enough to cause pressure necrosis or tear the fibrous capsule through which the ribbon gut has been threaded.

This operation has been performed upon ten dogs and five human beings with no fatalities and excellent results in each case.

Rupture of the Kidney—Rupture of the kidney is a lesion which occurs with greater frequency now than previously. This is probably due to the fact that the tempo of life as typified by the automobile, has speeded up tremendously. Hence a consideration of this lesion assumes more and more importance.

It was found impossible to rupture the fibrous capsule of a dog's kidney by striking its surface with a blunt instrument, although various degrees of injury could be done to the cortex of the kidney, depending upon the force used. The injuries produced varied from slight subcapsular hemorrhage to complete pulpefaction of that portion of the kidney cortex traumatized.

Upon opening the fibrous capsule following the injury, brisk bleeding always occurred and in the case of severe injury, serious hemorrhage was noted. In every case, this was readily controlled by applying thin particles of fat to the region of the bleeding points and repairing the wound by means of plain ribbon gut fixed in position by appropriate straps in the fibrous capsule.

In most of the experimental animals the loss of blood made intraperitoneal administration of normal saline solution necessary. All of the animals lived and it seemed most interesting that after a few days of lethargy they all recovered and not a single wound broke down or showed any evidence of extravasation at post-mortem examination. This very satisfactory result seemed to be due to the fact that the tension produced by subcapsular hemorrhage was relieved by opening the fibrous capsule, and the actual bleeding was controlled by inserting bits of fat and approximating the ruptured portions by the use of plain ribbon gut properly applied.

After actual pulpefaction of a portion of the

renal cortex, the tissue seems not to break down and produce abscess unless the fibrous capsule remains intact. In case the latter occurs the continued hemorrhage, the influence of the extravasated urine from the ruptured and macerated cortex, results in the ultimate rupture of the fibrous capsule, due to digestion, and abscess formation.

This usually occurs some time after the injury, which in itself, may not have been considered severe.

A very thorough study by Delzell and Harrah of 11 cases of ruptured kidney occurring in our hospital up to 1927 showed that it was found necessary to operate upon only 4 cases. Another patient, however, died before operation could be done, following an automobile accident. Another patient was operated upon and died. Thus it was seen that of 11 cases only 5 were considered to be in need of an operation. On the other hand, the author has recently had a case which will be described in detail, which demonstrates the desirability in certain cases of early operation, in order to save the kidney and to rescue the patient from serious infection and danger of death.

Case Report*—M. C. age 19, a white male laborer, entered the Fitkin Memorial Hospital on October 19, 1930, complaining of pain and tenderness in the right abdomen and loin. He also gave a history of hematuria. His previous history is irrelevant. The present illness began on the afternoon of admission, at which time he was injured while playing football. Following the injury he passed bright red blood in his urine and felt weak and nauseated. A provisional diagnosis of ruptured kidney was made.

X-ray examination on the day after admission revealed a complete fracture of the right twelfth rib. The picture was suggestive of hemorrhage in and around the right kidney. Hematuria continued for four days and then cleared up.

Pain persisted with lessening severity and all was well until November 4, sixteen days after the original injury, at which time profuse hematuria occurred. It was necessary to catheterize the patient every six hours on account of the obstruction caused by clots in the bladder.

On November 6, eighteen days after the original injury, his red blood count was 3,780,000 and hemoglobin 70 per cent. A

*This case is reported with the consent of Dr. J. D. Magee, of Asbury Park, New Jersey, who called the author to perform the final operation.

transfusion of 350 c.c. of citrated blood was administered.

After he had been free from hematuria for forty-eight hours following the transfusion, a brisk hemorrhage occurred into the bladder and for the first time, twenty days after the injury, a mass was made out in his right flank. The pain in this region was very severe.

On November 9, three weeks after the original traumatism, an operation was performed under spinal anesthesia. The kidney was exposed and found to be tremendously enlarged. Mobilization was impossible. A nephrotomy was performed. The capsule was opened near the lower pole and the cortex was found to be composed of macerated kidney tissue and blood clots. During the exploration of the kidney a tremendous hemorrhage occurred, which was finally controlled by much packing, which was applied tightly. The wound was closed around this packing and a transfusion immediately given.

The patient did poorly and was transfused four times as follows: four days after operation, on November 13, he received 350 c.c. of citrated blood. Again the next day he was given a similar amount and the following day he received 500 c.c. The result of these transfusions was satisfactory and the patient's general condition now warranted further surgical relief.

On November 18, nine days after the nephrotomy and thirty days after the football injury, the author was called in consultation and performed a nephrectomy upon the patient.

The wound was reopened and the packing carefully removed. The fragmented portions of the kidney were quickly isolated and during this procedure a massive gush of blood occurred that was controlled by prompt pressure with a large piece of gauze. The field was cleared and the bleeding point carefully approached from the side. The pack had to be removed entirely in order to approach the vessels of the pedicle. Part of the hemorrhage was controlled at the first attempt and complete hemostasis was accomplished at the second attempt. Gauze was lightly packed into the wound after removing all the fragments of kidney tissue which were partly necrotic. The clamps were left on. The wound was closed in the usual manner and a transfusion of 350 c.c. of citrated blood given on the table. The patient's condition was fair at the end of the operation.

His postoperative course was satisfactory. Drains were removed on November 22, four

days after the second operation, and the clamps were loosened one notch. They were loosened completely the next day, and removed from the wound the following day.

The patient was allowed out of bed on December 9, twenty-one days after the nephrectomy and fifty-one days after the injury. He was discharged from the hospital in good condition except for a slightly discharging sinus in the right loin on December 18, 1930.

It is our opinion that if this patient had bled a little more profusely at the beginning of his illness we would have operated within three or four days after the original trauma and saved the patient's kidney as well as his life.

There have been no deaths of humans treated by these operative measures except R. W. upon whom the author performed a heminephrectomy for rupture of a hydronephrosis on one side of a horseshoe kidney. This patient died 8 months after operation, due to an intercurrent infection which had nothing to do with the heminephrectomy, but autopsy presented the opportunity to study the site of the heminephrectomy wound. It had healed perfectly and there was no evidence of excessive scar tissue formation, drainage of urine, or any other adverse finding.

The accompanying table summarizes our experiences with the four kidney operations described in this paper which have been performed on human subjects.

Conclusions—(1) The repair of kidney wounds and incisions is practical and effective upon both animals and humans by means of tying the kidney together with ribbon gut instead of suturing the kidney substance. Hemostasis is accomplished by insertion of fat particles and approximating the wound edges without undue pressure. Healing, as demonstrated by the study of the kidney of the dog, is apparently complete and perfect.

(2) Fixation of the kidney by means of a simple basket of ribbon gut around the kidney is the most effective and least destructive manner of performing nephropexy thus far devised.

(3) Heminephrectomy may be accomplished by means of ribbon gut properly fixed in the fibrous capsule and tied over a piece of fat which has been effective in controlling the most violent hemorrhage in the kidney of the dog.

(4) In rupture of the kidney when hematuria persists for longer than a few hours an ex-

Chart showing experiences with the four kidney operations discussed in this paper. Most of the cases were done before the introduction of ribbon-gut in renal surgery in 1933.

Specialistic Period (Brady Foundation) 1920-1935	Neprostomy	Nephropexy	Hemine- phrectomy	Ruptured Kidney Nonop.	Operative	Totals
TOTAL CASES	147	70	4	0	5	226
AVERAGE AGE	37	35	40		32	36
SEX { Male Female	103 44	14 56	2 2		3 2	122 104
SIDE { Right Left Bilateral	69 77 1	55 10 5	4		3 2	127 93 6
AVERAGE POSTOPERATIVE DAYS	24	23	26		15	22
CURED	56	28	1		2	87
IMPROVED	72	41	3		1	117
UNIMPROVED	5					5
DIED	14	1			2	17
MORTALITY RATE	9.58%	1.42%	0		40.0%	7.5%

*1 case still in Hospital

Ruptured Kidney: 4 cases "Rupture"; 1 case "Lacerated Wound."

ploratory operation, opening of the usually unruptured fibrous capsule, drainage of the kidney pelvis and ruptured cortex, hemostasis by means of fat and repair of the kidney with ribbon gut properly applied with the Lowsley needle will accomplish less renal destruction and give better local and general results than any other method thus far utilized.

(The author wishes to thank Drs. Dunlop, Adams and Harrett who have cooperated in the animal experimentation in connection with the preparation of this report.

The animal experiments necessary in perfecting the methods proposed herein were conducted in the Department of Experimental Surgery at the New York Hospital. The author is particularly grateful to Professor George Heuer and Professor Joshua Sweet and his assistants for their hearty cooperation.)

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A STATISTICAL STUDY OF OSTEO-MYELITIS AT THE UNIVERSITY OF KANSAS HOSPITAL

JAMES B. WEAVER, M.D.*
Kansas City, Kansas

This is a report of a study of all the cases of osteomyelitis admitted to the University of Kansas Hospital for the fifteen year period from 1920 to 1934 inclusive. During this time a total of 319 patients, suffering from osteomyelitis, were admitted 469 times, which is 1.07 per cent of the total admissions for all causes. These patients spent 15,652 days in the hospital or 2.61 per cent of the total hospital days.

We have classified these cases as either hematogenous or primary after the suggestion of Wilensky.¹ Hematogenous osteomyelitis is that form which may or may not have a demonstrable portal of entry of infection with a bacteremia and a subsidiary focus of infection in the bone. Primary osteomyelitis is produced by a direct communication for infection from the outside of the body to the bone, i.e., stab wounds, compound fractures, gunshot wounds, etc. Extension osteomyelitis, i.e., direct extension from an infected sinus to adjacent bone, is considered as a primary osteomyelitis.

A study of Table I reveals that hematogenous osteomyelitis occurs about twice as frequently as the primary and is a more serious disease, as evidenced by the greater number of readmissions, operations, hospital days per patient and the higher mortality rate. These figures tend to confirm the truth of our assump-

tion that hematogenous osteomyelitis is a constitutional disease, while the primary group is for the most part a localized condition. The numerous operations, readmissions and average duration of the disease before the first admission are ample evidence of the chronicity and treacherous character of osteomyelitis in general. The duration of the disease is not infrequently for a natural lifetime. One patient with hematogenous osteomyelitis had had a draining sinus from the tibia for sixty years. Two other patients had had the disease for fifty-nine and forty-eight years respectively. Periods of duration of ten, fifteen and twenty years were common. Naturally many of these patients were hospitalized elsewhere both before and after admission to our institution so that many of our figures tell only part of the story.

Table II points to the fact that hematogenous osteomyelitis is in its onset a disease of childhood. Over seventy-eight per cent of the cases began before the age of sixteen years. Primary osteomyelitis, however, has its beginning in adult life, over eighty-one per cent occurring after the age of fifteen years. The youngest patient with hematogenous osteomyelitis was three months of age and the oldest seventy-one years of age. The youngest in the primary group was three years of age and the oldest seventy years of age.

The data contained in Table III support the well known fact that the long bones are most frequently affected. It is of interest that the hematogenous type is much more metastatic in character than the primary, again emphasizing that the infection in the hematogenous is a bacteremia. However, this table gives ample proof that at least ten per cent of the primary

*Department of Orthopedics, University of Kansas School of Medicine.

TABLE I

	Hematogenous Osteomyelitis	Primary Osteomyelitis	Total
Number of patients.....	209	110	319
Number of admissions.....	329	140	469
Males.....	141	84	225
Females.....	68	26	94
Average age at onset.....	13.09 yrs.	29 yrs.	
Average age at admission.....	18.2 yrs.	31.2 yrs.	
Average duration before admission.....	5.1 yrs.	2.3 yrs.	
Total hospital days.....	12,012	3,640	15,652
Hospital days per patient.....	57.4	33.1	
Hospital days per admission.....	36.5	26	
Total operations previous to admission.....	299	72	371
Total operations in the University of Kansas Hospital.....	301	157	458
Average number of operations per patient.....	2.87	2.08	
Deaths.....	8	2	10
Per cent—mortality.....	3.82	1.81	3.1

TABLE II

Age at onset	5 years and less	6 to 10 years	11 to 15 years	16 to 20 years	21 to 30 years	31 to 40 years	41 to 50 years	51 to 60 years	61 years and over
Hematogenous Osteomyelitis	28	64	72	21	12	3	6	1	2
Primary Osteomyelitis	4	3	13	19	28	18	15	6	4

TABLE III

BONE	Hematogenous Osteomyelitis		Primary Osteomyelitis	
	Primary Involvement	Metastatic Involvement	Primary Involvement	Metastatic Involvement
Femur.....	84	23	12	2
Tibia.....	54	14	32	0
Fibula.....	10	4	13	0
Humerus.....	23	22	6	1
Radius.....	5	8	7	3
Ulna.....	3	3	2	1
Ilium.....	5	13	3	1
Tarsals.....	8	2	5	1
Tarsal Phalanges.....	0	3	0	0
Patella.....	1	0	0	0
Carpals.....	3	4	1	0
Carpal Phalanges.....	1	0	11	0
Sacrum.....	0	3	1	0
Vertebrae.....	1	1	0	0
Clavicle.....	2	4	1	1
Sternum.....	2	0	0	0
Ribs.....	1	2	2	1
Skull.....	3	1	5	0
Mandible.....	3	2	22	0
Maxilla.....	1	0	1	0
Nasal Bones.....	0	0	2	0
Total.....	210	109	125	11

type become bacteremias though local in the beginning. The high incidence of primary osteomyelitis in the mandible is quite striking.

There are three main factors in the etiology of hematogenous osteomyelitis, namely, the type of organism, focus of infection and trauma. There was a definite history of trauma in seventy-four patients of the 209 (35.4 per cent). As a rule this trauma was in the nature of a bruise, a short time before the onset of the disease. In no instance was there a frank break in the skin.

The bacteriology of hematogenous osteomyelitis is considered in Table IV. In the greater majority of instances the staphylococcus was the causative organism. Though not stated the aureus group predominates. Two of the staphylococcus strains were said to be hemolytic in character. In the light of more recent knowledge we know that this incidence is much too low and that fully ninety per cent of strains of the staphylococcus recovered from osteomye-

litis are hemolytic in character.² The bacteriology is listed in only eighty-seven cases out of the 209 and only those cases are reported where we were quite sure of obtaining pure cultures. The two cases ascribed to syphilis were diagnosed from the clinical findings, x-ray picture, positive serology and the response to anti-luetic therapy. Positive blood cultures were obtained rather infrequently.

The role of focal infection in hematogenous osteomyelitis is portrayed in Table V. It is noted that a history of focal infection was elicited in forty-four patients or 21.09 per cent of all cases. Boils are considered as a focus in practically twelve per cent of all cases and over fifty per cent of the cases giving a history of a focus. This finding is in keeping with the opinion of some physicians that children with boils should be confined to bed as a preventive measure. Of passing interest, are the two cases in which an infected blood clot, from epistaxis, was the focus.

TABLE IV

	Staphylo- coccus	Streptococcus non-hemolytic	Streptococcus hemolytic	Staphylococcus and Streptococcus	Negative	Lues	Total
Number cultured from pus	63	8	4	2	8	2	87
Per cent	72.4	9.19	4.59	2.3	9.19	2.5	
Blood cultures	8	1	0	0	3		

Since primary osteomyelitis starts from an infection in direct contact with the bone, we would expect trauma to play an important etiological role. This is obviously true as demonstrated in Table VI. Compounded fractures provide thirty per cent of all cases and if we consider fractures of the mandible in this category the percentage would be much higher.

TABLE V

	No.	Per Cent
Boils	25	11.96
Otitis media	4	1.91
Abscess	3	1.43
Carbuncle	2	.95
Pelvic disease—following abortion....	2	.95
Tonsils	2	.95
Epistaxis—infected blood clot.....	2	.95
Empyema	1	.47
Pneumonia	1	.47
Influenza	1	.47
Measles	1	.47
Total	44	21.09

TABLE VI

	No.	Per Cent
Compound fractures	36	30.
Open reduction of simple fractures...	13	11.6
Other Operative procedures.....	3	2.7
Lacerations	11	10.
Puncture wounds	6	5.45
Abscessed tooth	6	5.45
Tooth extraction	11	10.
Gunshot wound	7	6.36
Local conditions	11	10.
Fractures of mandible.....	6	5.45

Trauma was the basic factor in all these cases except in six instances of abscessed teeth causing osteomyelitis of the mandible and three cases of osteomyelitis of the frontal bone by direct extension from a frontal sinusitis. Thus, ninety-one per cent of cases are directly due to injury. Frozen feet, diabetic gangrene, etc., are listed under local conditions as well as sinus infections. The most startling figure in this chart is the 11.6 per cent caused by the open reduction of simple fractures. This fact might well be the text of a plea for more caution, judgment and perhaps skill in this method of

treatment of fractures. As trauma plays such an important role in the etiology of primary osteomyelitis, we thought it possible that the ratio of the primary to the hematogenous might be less in later years, due to the great increase in injuries by automobile. However, we found that the ratio of approximately one to two was constant for each of the five year periods covered by this report.

The mortality statistics are important. In Table VII it will be noted that the cases of hematogenous osteomyelitis have been divided into acute and chronic. We have arbitrarily considered all cases of twenty-one days duration or less as acute osteomyelitis and all over this period as chronic. On this basis, our percentage death rate is twenty-five per cent in the acute cases and 1.58 per cent in the chronic. In non-hospital practice the mortality rate is undoubtedly much less than twenty-five per cent. As a rule the more fulminating cases are hospitalized, while many of the milder forms reach chronicity before a diagnosis is made. The mortality rate of primary osteomyelitis is again presented as a measure of comparison.

A detailed study of the death cases (Tables VIII, IX and X) produce some interesting information. Attention is called to the low age incidence and short duration of the disease in patients dying of acute hematogenous osteomyelitis. The staphylococcus aureus was the organism at fault. Rapid blood destruction was a prominent feature as evidenced by the leucocyte count and hemoglobin determinations taken upon admission. This last feature points to the rationale for the use of repeated blood transfusions as a therapeutic measure in the acute cases. Three of the five cases came to autopsy. Two showed marked toxic degeneration of the organs, especially the heart, liver and kidneys. The third had a suppurative pericarditis with embolic abscesses in the lungs along with the toxic degeneration previously mentioned. The picture in these death cases is one of an overwhelming toxemia. Two of our three death cases in chronic hematogenous osteomyelitis followed an operative procedure and

TABLE VII

	No. of patients	Deaths	Percentage
Acute hematogenous osteomyelitis.....	20	5	25.
Chronic hematogenous osteomyelitis.....	189	3	1.58
Primary osteomyelitis	110	2	1.81

TABLE VIII
DEATHS DUE TO ACUTE HEMATOGENOUS OSTEOMYELITIS

	Age	Duration of disease	Culture of pus	Blood culture	Bone	White Blood count	Hemoglobin per cent	Sex
1.	7 years	6 days	Staphylococcus aureus		Humerus	9,900	74	M
2.	6 years	7 days	Staphylococcus aureus	Staphylococcus aureus	Tibia	15,500	61	M
3.	4 years	7 days	Staphylococcus aureus H	Staphylococcus aureus H	Femur	8,575	70	F
4.	2 years	6 days			Femur	5,600	70	M
5.	5 years	10 days	Staphylococcus aureus H	Staphylococcus aureus H	Tibia	19,850	71	M

TABLE IX
DEATHS DUE TO CHRONIC HEMATOGENOUS OSTEOMYELITIS

	Age	Sex	Duration of disease	Culture of pus	Remarks
1.	14 years	M	2 years		Died 3 weeks after operative procedure with marked septicemia
2.	11 years	F	1 year		Osteomyelitis quiescent, but developed brain abscess causing death
3.	41 years	M	34 years	Staphylococcus aureus	Had amputation of leg followed by flare up and death in 35 days

TABLE X
DEATHS DUE TO PRIMARY OSTEOMYELITIS

	Age	Sex	Duration of disease	Culture of pus	Remarks
1.	52 years	M	7 mos.	Staphylococcus aureus	Had an unsuspected pelvic abscess involving kidneys.
2.	27 years	M	5 mos.	Bacillus Coli	Gunshot wound in sacrum and ilium with peritonitis

death was due to either an exacerbation of the old infection or a secondary infection which, in either case, would be an operative accident. The third case died of a brain abscess, though the osteomyelitic process had been quiescent for two months. The two deaths in primary osteomyelitis were in chronic cases and require no special comment.

We have made no attempt to determine the percentage of cures because we do not know when a cure has been affected. Many of the patients studied were symptom free and apparently cured for periods of from five to thirty-three years, only to have a recurrence in the same bone or perhaps a new one following some slight trauma or for no apparent reason. If cures are to be reported in osteomyelitis, it is the author's opinion they should be listed as

five, ten and fifteen years cures similar to the present custom of listing cancer cures.

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According to tables recently compiled by the Statistical Bureau of the Metropolitan Life Insurance Company, the rural dweller, in the United States, has, on an average, four or five years longer life than the urban resident.

At birth a white male has an expectation of life of 56.73 years if an urban resident, and 62.09 years if dwelling in a rural section. The corresponding figures for a white female are 61.05 and 65.09.—*Ohio State Medical Journal*.

COMMON DISORDERS OF THE LARGE BOWEL*

PHILIP W. MORGAN, M.D.
Emporia, Kansas.

Satisfactory therapy is the practical object of diagnosis which is the first step to the proper management of any malady.

Most people who seek professional medical services present findings which enable us to say that their ailments have in one proportion or another three rather fundamental etiologies. These factors are psychic, physiologic and anatomic or organic abnormalities. The decision concerning which of the three deserves the most attention is the physician's problem. As I see it, one usually meets in the majority of human ailments a vicious cycle, which is well established when we first see the patient. This chain of dysfunctions, the links or segments of which stimulate and aid each other, may be all from one; but usually represent the three etiological groups mentioned. Therapy will be successful in proportion to the number of principal segments of this vicious cycle which it removes.

The sympathetic ear of a physician plus his rationalization of the patient's viewpoint helps greatly in handling the psychic portion of the etiology. This is only possible when a systematic history is carefully elicited, which procedure requires thought, a definite plan of approach, time and patience on the part of the physician. Sedatives of the groups acting on the higher centers of the central nervous system are without doubt valuable adjuncts in restoring the normal threshold of irritability.

We must now turn to the other two etiological factors of our cases—namely, physiological and organic. A few decades ago—even less than that, most of the pathology taught was in the field of morbid anatomy, but several large texts on pathological physiology now through many editions, show that pathology of the functional type may be very important for recognition by the physician. Whether most all major and incapacitating organic pathology has gone through a reversible or physiologic phase is of course problematical, but no doubt many skeletal deformities, many organic urinary, circulatory and digestive tract disorders that we can all recall, did go through a stage which was purely functional, in the major part.

Orthopedic surgeons operate to balance paralyzed muscle groups, and hence prevent deformities which would otherwise cripple. Urologists dilate, resect, or remove obstructions which might otherwise end in uremia or permanent kidney impairment. Cardiologists advise the removal of foci of infection, the careful handling of infectious diseases, the modification of activities, the reduction of body weight, and catharsis and diuresis as well as other measures to prevent conditions which cause functional circulatory disorders from ending as organic cardiovascular disease. Gastro-enterologists suggest also many procedures calculated to prevent organic changes from occurring as a result of physiologic dysfunctions. One might devote much time to discussing any of many of the functional disorders falling under the headings just mentioned. I have decided to discuss certain aspects of a group of cases from my personal records which from their histories were cases of large bowel dysfunction and to present a mode of attack which though old, is apparently neglected.

A perusal of the literature on functional and organic pathology of the gastro-intestinal tract emphasizes the fact that no generally accepted etiology, or therapy exists for disturbances in various parts of the digestive system. This chaos is particularly noticeable in treatises dealing with maladies distal to the ileocaecal valve.

One prominent gastro-enterologist says most all the colitis we see is chronic because aside from toxic types, the patient cares for himself through the first acute stage. This man of vast experience, whom I quote, classes them in four groups: Mucous colitis or colitis mucosa; colitis granulosa; colitis atrophicans; and colitis hemorrhagica. He adds ulcerative colitis as a grave fifth form. Between these four or five stages, he says, any case may shift within limits under proper care, and in the great majority of cases the patient can be helped and freed of most if not all symptoms. Other clinicians warn us against calling colon hyper-irritability—colitis. Some argue on the one hand that most colitides are due to a specific organism and they are contradicted by others who say that another, or that no particular organism is the cause. Most all agree that Shiga and Flexner and other dysentery organisms, both bacterial and protozoal, are often causative in some degree in ulcerative colitis. One might name the clinicians and continue to refer to their theories but it is better to remember that the subject of etiology

*Presented at the June, 1935 meeting of the Lyon County Medical Society.

and treatment of a large group of lower bowel disturbances is far from settled, and hence remain idiopathic or due to any of a group of factors acting singly or in various combinations.

Undoubtedly the vegetative systems (including the endocrines with the vegetative nervous system) play a great role either primarily or secondarily in the etiology. In every case, and especially in the many milder disturbances, I am inclined to believe the vegetative nervous irritability reflecting the central nervous irritability of the individual is quite important. I also believe that through these factors the situation is retroactive—that is an individual may become generally hyper-irritable, if he has a colon which is irritated. A Jewish fellow-student of mine in medical school had regularly attacks of diarrhea before his examinations and often took his examinations a week or two early when possible because this symptom which came coincident to his nervous anxiety was so annoying. Recently a patient whose duty as an accountant is to figure profits for a large concern had exacerbations in the 1929 crash, the start of NRA and again when NRA ceased. In another case, a farmer's wife suffers exacerbations each year when she has large numbers of young chickens hatching, and she also had a "flare-up" when their farm was flooded by high waters. We all know many such evidences of large bowel hyper-irritability precipitated by periods of social stress. I feel that allergy, focal infection, the prolonged use of laxatives, and trauma caused by rough indigestible food stuffs are also prominent etiologic factors. Moreover several of these may co-exist, and I am sure that my proctoscopic observations indicate that they intensify the mucosal changes which often go parallel with the subjective symptoms reported by the patients.

In my private practice I make proctosigmoidoscopic examinations when it is indicated by the history or physical examination. Such a procedure I recommend because it can be done in a few minutes in the office, and often times reveals beyond all doubt the source of many of the patients' visceromotor and viscerosensory symptoms. Since general colitis most frequently is first evident in the ampulla and recto-sigmoid and when the different forms of colitis are subsiding, they leave all parts before they leave the ampulla and recto-sigmoid, I feel that we should use proctosigmoidoscopy

freely. This approach also affords a direct route of attack in therapy. The preparation which I employ for examination is to have the patient avoid all laxatives for the preceding twenty-four hours, and appear at my office within an hour after irrigating his bowel with warm water to which he has added a level teaspoonful of table salt to the two-quart fountain syringe bottle. Using the same concentration of saline, I add that he continue his irrigation until the return is clear if it is not so after using the first two quarts. I instruct individuals who have diarrhea, to take an appropriate dose of codeine or dovers powder (which is provided them) an hour before they start their irrigation. When the patient presents himself, he is asked to assume a position on the examining table with the head and shoulders down on the level with the knees, and otherwise in a kneeling position. This position usually eliminates the need for distending the part with air. It is important that the flexed thighs be perpendicular to the table, the knees separated the width of two fists and the back relaxed and sagging down rather than arched up. The assistant can, in the case of women, arrange the patient in this position and arrange a drape so that none but the part to be examined is exposed. Before attempting instrumentation, one makes a digital examination to ascertain the state of the sphincters and the presence of fissures or obstructing masses. Using the operators left hand and one of the assistants hands to separate the buttocks, the proctoscope can be inserted without discomfort to the patient. The tip and shaft should be lubricated and to prevent the obturator from slipping, I grasp the instrument with the palm of my hand or hold my thumb firmly against the butt of the obturator. As soon as the rectal sphincters are passed (usually two to two and a half inches), the obturator in the proctoscope should be removed and all further introduction done with the illumination provided to guide the examiner around the valves and through the sphincter separating the ampulla from the recto-sigmoid. While this introduction is being done (ie: as soon as the obturator is removed), the operator's left hand placed on the patient's buttock with the proctoscope using the webbing between the operator's left thumb and forefinger as a fulcrum prevents much of the distress otherwise occasioned the patient. On the way in one can make cursory observations but as the tube is removed, one is better able to closely examine

the mucosa for congestion, edema, mucous, hemorrhage, ulcers, polyps or tumors.

After passing the rectal sphincters and removing the obturator, one finds a cavity usually said to be about the size of the patient's fist. This, the ampulla, is divided by one-fourth to one-half moon shaped folds of mucous membrane, known as valves. The ampulla is about two and a half or three inches long and at its upper end one finds a smooth mucous membrane lined wall, which when approached from the position described is interrupted usually in its lower left segment by the opening into the recto-sigmoid. This often appears as a slit or dimple, and one can sometimes easily make out the small mucosal folds which so differentiate the recto-sigmoid from the ampulla where the mucous membrane is smooth. The opening into the recto-sigmoid may seem to be closed but one will soon see it relax and at such a moment, the sigmoidoscope can usually be introduced without any effort or trauma. Occasionally to pass this sphincter the obturator must be reinserted. Soon after entering the sigmoid one detects the pulsations of the patient's great vessels which we know lie only a short distance away. Progressive introduction may be impeded at this point by discomfort, but if the examiner is patient and gentle, the gut will move about and enable continued introduction without marked discomfort and the patient will not complain. It is possible to explore the sigmoid only in its distal or rectal portion, but since, as was said before, this lower sigmoid and the ampulla of the rectum are the first places that colonic irritation starts and the last places in which the disease subsides, one gains most important information from the study.

The records of forty patients examined in my private practice in the fashion just described disclose that two carcinomata were demonstrated; one case of definite ulcerative colitis was picked up, and a number of cases showing less marked but definite colitis were diagnosed. Competent colleagues had missed both cases of carcinoma because they relied entirely upon x-ray examination and a number of the cases of mucous and granular colitis had been misdiagnosed because this method of approach had been neglected.

In the management of the cases mentioned a comprehensive plan is here used. First of all we must not promise a cure, but lend encouragement and explain that the malady can be kept under control and helped. Undoubtedly all

cases with irritable colons improve on a smooth diet where all fibrous indigestible matter is eliminated. This of course provides a highly nutritious diet, though vitamins and minerals need in some to be given in addition. The patients also are better off if they can do without laxatives of any sort. The central nervous system irritability which seems one of the characteristics of the person who has an irritable colon, needs a crutch for a while, and in addition to measures mentioned in the introduction, I favor bromides given after meals and at bed time in sufficient dosage to secure adequate rest at night. A rather expensive but very convenient proprietary preparation is "Bromural" which can be procured in convenient five grain tablets or can be incorporated as a powder in prescriptions. Usually, however, I use sodium bromide, and recently I was told lithium bromide had the advantage of easier disguise than the sodium salt. Definite thyroid deficiency treated adequately with thyroid substance has helped several in the group I have. To overcome the "cramping" which these patients complain of I always employ atropine, though many prefer to use belladonna, but any drug of the group is satisfactory. I have it taken an hour or so after meals, and the bromide taken immediately after eating. For excessive gas which is another common complaint, I employ some combinations carrying kaolin. A vegetable mucin proprietary preparation called "Metamucil" has been of great service periodically in a good number of cases to relieve an upper abdominal distress of which these patients sometimes complain. With this armamentarium I begin the management after attempting to locate and have removed all foci of infection. One of our colleagues here related an experience of his where a woman a number of years ago was completely relieved of a severe colitis by the removal of an infected tooth. Though I feel we are treating a symptom rather than a real disease when we treat allergies in the present accepted fashion, I believe many people with irritable colons maintain that irritability by continued use of foodstuffs to which they are allergic, and in lieu of more fundamental information, I think we should not neglect sensitization tests and then eliminate offending allergens. Just recently I observed in an ampulla and sigmoid some wheel-like areas on the mucosa, and on questioning found that the patient had had on the preceding evening some food to which previous tests and

experience had demonstrated she was sensitive. A few days later these localized markings had disappeared and the patient said she had been more careful with her diet and was feeling better for it.

In the beginning I see the patient three times a week and later less frequently and depending upon the type of disturbance evident in the mucosal picture, administer directly to the irritated surfaces appropriate medication either in powder or liquid form as the scope is withdrawn. The patient uses the same preparation described above when the initial examination is made. Medication introduced in this fashion has been demonstrated to reach the caecum in instances where appendicostomy has been performed, and one has the right to expect such dissemination since the lower bowel peristalsis goes cephalad as well as caudad. Where such management is impossible, the classic treatment of retention enemas of small amounts of bland oils, such as olive oil or cottonseed oil at bed time has seemed to be helpful. The patient should always be warned to warm the oil before instilling it. The installations are every other night for a while and then less frequently. The periodic use of intramuscular foreign protein (I use Proteolac-Searle) has also been a useful adjunct. The question of whether one should use colon irrigation with one of the instruments built especially for that purpose has been argued repeatedly. From recent publications as well as from my own observations I believe when properly carried out and with procto-sigmoidoscopic observations after or between treatments, they are definitely beneficial. I have used it as a preparation for instrumentation and direct treatment in a number of instances, and the results indicated that it was beneficial. Some, however, have complained that it was too strenuous, and we have proceeded having the patient irrigate himself before local treatment was given.

In a review of the work of Dr. Franz Alexander and his colleagues in Chicago, one is told that certain cases of gastro-intestinal disease are relieved by careful psycho-analysis. This serves to again emphasize that many of these gastro-intestinal disturbances are merely reflections of a general body state. Certainly most large bowel disturbances which appear to be hyperirritable and largely functional are either part of or are reflections of a general condition rather than simply the local irritation that they appear to be. Usually the past medical

history offers an explanation of why the colon instead of the stomach or central circulatory or peripheral circulatory system has in the individual case been the site of the manifestation of the neurosis.

The patient needs treatment more than does his colitis, no doubt, but in the majority of cases which we have it is economically impossible to advise drastic change in vocation or other social situations which may be prominent factors in the etiology.

It is evident that I have spoken particularly of the milder types of colitis, but I feel that in these cases we can do more and by careful management prevent more serious types from developing, and what is most important we can enable the victim to pursue his work without interruptions. The handicap imposed on an individual by "colds" or other so called mild upper respiratory tract infections, insufficient sleep, and other apparently insignificant loads are usually quite adequate to cause exacerbations in a quiescent symptomless case of colitis no matter what type might have existed. Another fact which I have observed is that the severity of the lower bowel symptoms seldom goes parallel with the real severity of the case. In several cases where no x-ray or proctoscopic evidence of ulceration existed, the symptoms were fully as severe as in instances where definite marked structural change had taken place. When patients say they have stomach trouble we should not be too ready to take their word for it and immediately institute extensive x-ray studies until we have done what we can with our simple office armamentarium for investigation including procto-sigmoidoscopy. Abdominal distress, backache, diarrhea or constipation, false calls to stool, pressure sensation about the rectum, the report of small chopped off or rabbit like fecal masses, reports of mucous or "slime" or blood in the stools, excessive or annoying amounts of flatus—all these are phrases from histories of patients whom on procto-sigmoidoscopic examination revealed either just congestion and edema of the mucosa with some spasm of the bowel wall or those with granular appearing mucous membrane which bled easily on swabbing or those with actual free blood and pus in addition to the other named findings. Though specific types of colitis are obviously met with occasionally, I am sure that these non-specific or idiopathic pictures are far more frequent, and by first diagnosing them and then attacking as many of the seg-

ments of the vicious cycle which exists to produce the picture in each individual case, I feel we will be combining the art and science of medicine as well as we are when we remove infectious foci, reduce weight, modify activities, and use rest, support, and stimulation in the management of a cardiovascular patient.

PRACTICAL HINTS IN PRENATAL EXAMINATIONS

RICHARD B. SCHUTZ, M.D.

Kansas City, Missouri

The following discussion presents no statistics, propounds no theories, nor will it astound by its "redundance of medical verbiage." It is presented, knowing that most physicians appreciate and use certain physical signs as guideposts in diagnosis and prognosis. Every specialty in medicine has its own group of valuable signs which too often are not published because the examiner, habitually using them, is aware of their existence, not as entities, but only as part of a routine technique. Every new sign employed increases the examiner's understanding of alterations of physiology; a fact so amply demonstrated in the case of the examiner who palpates and auscultates the abdomen in advanced pregnancy, discovers nothing but the approximate duration of gestation and that the heart sounds are on the right or left side, either above or below the umbilicus. Much of prognostic importance is overlooked until the facts, often too late, are forced into consciousness by the succeeding events. Consider for example the value of advanced information concerning transverse or breech presentations, multiple pregnancy, monstrosities, polyhydramnios, occiput posterior position, or failure of engagement of the head at term, but before the onset of labor.

The need for more intelligent prenatal examinations, and the enthusiasm with which the following suggestions have been received by students in teaching clinics are the reasons for this presentation.

A. PALPATION OF THE ABDOMEN

1. The suspicion of a breech presentation, on palpation of a hard mass in the fundus, becomes less of a suspicion when the mass is found to be ballotable. A breech in the fundus will not show this sign.

2. When it is difficult to demonstrate the back or small parts directly, a sharp direct

percussion with the palmar surface of the two distal phalanges of the index finger will elicit a distinctly dull, low note on the side over the back, and a higher tympanitic note over the small parts.

3. For the most part, polyhydramnios is not recognized until there is very excessive fluid present. Occasionally in the earlier stage a cystic impression is obtained on palpation of the abdomen. By more refined technique the fluid wave may be elicited, even in very early polyhydramnios. In a normal pregnancy no wave may be elicited. In the presence of a moderate fluid excess, a percussion wave may be produced, as in ascites, with the provision that no attempt be made to produce a wave from flank to flank. With the patient on her back, the small parts are located, and on this side the wave is produced from the mid-line of the abdomen to the flank or visa versa. Occasionally it is more distinctly felt when the wave, a stethoscope is placed at the point where vertical line. The sign may be more distinct when the patient is lying on the side on which the fetal back lies, and a larger collection of fluid is available without a fetal mass to impede it.

A very delicate sign may be obtained, if instead of the hand being used to receive the wave, a stethoscope is placed at the point where the wave is expected. First one hears the actual tap of the finger on the abdomen, and immediately thereafter a similar, weaker tap is heard, which is the fluid wave. These sounds may be as close together as reduplications of heart sounds, and vary in time as the distance through which the wave must travel.

4. Diagnosis of position of the fetus is notoriously inaccurate; primarily because the location of the heart sounds is so commonly used as the determinant, and finally because medical students are so seldom taught to actually feel the head, which, after all, is the part of the fetus concerned. It is good practice to locate the back on the right or left side, then palpate the head, making certain the occiput and the forehead are felt and not the side of the head. In accomplishing this, the examiner's hands must be held nearly parallel; otherwise, the parietotemporal surface of the head is touched and the designation of position becomes purely guesswork. When the head is normally flexed, the position may accurately be determined by actually locating the occiput and the more easily felt forehead (cephalic promi-

nence). Allowing the fingers to slip up from the occiput, the shoulder may be palpated if too much pressure is not applied, and one's distal phalanges are flexed on the proximal.

The location of heart sounds to indicate position is notoriously fallacious for often in posterior positions they may be heard anteriorly through the fetal chest wall. The examiner may be satisfied, when hearing sounds in the right lower quadrant, calling the position ODA, when actually there may be an OLP position with the heart sounds deep in the left flank. With the proper diagnosis the prognosis becomes materially altered. Stethoscopy may determine the position in the vast majority of cases, i.e., in anterior positions, but the great value of correct diagnosis is found in the small percentage of posterior positions, and more refined technique must be used for accuracy. It would seem good practice to listen for heart sounds first where they are least expected.

The frequency with which the occiput right head engages as a posterior would make it wise to call all such, posteriors, unless otherwise demonstrated.

5. Abnormal pelvic inclination with accompanying lumbar lordosis is not recognized with the patient lying down. The simple procedure of slipping one's hand under the lumbar spine may explain failure of engagement, even late in labor.

B. PELVIC MEASUREMENTS

1. External pelvic measurements do give general information as to the size of the pelvis but little information as to the size of the pelvic inlet. The bispinous and intercrystal measurements in themselves are of little value, but their relation to one another may give valuable information. When the interspinous equals or exceeds the intercrystal, a flat pelvis should be looked for.

2. The bitrochanteric measurement in itself is of little value, but as an index of feminine pelvic architecture it may be an important guide. It is a simple procedure, after taking this measurement, to immediately measure the bi-acromial diameter of the shoulders. In the typical feminine type, this diameter is equal or less than the bitrochanteric. When the bi-acromial diameter exceeds the latter, one has a warning to look for and at least exclude the presence of endocrine disturbances of pelvic architecture. The difficulty in measuring the bitrochanteric diameter, due to large fat pads,

may also draw attention to endocrine disturbance.

C. BONY OUTLET

1. The bituberous diameter of the outlet is frequently underestimated because of the difficulty in palpating through the buttocks. As a result, some point on the descending rami are felt and the measurement being too high is also too narrow. By flexing the thighs on the abdomen, thus rotating the pelvis ventrally, the tuberosities are carried closer to the skin surface and can be more accurately palpated.

2. The posterior sagittal diameter is also underestimated when accidentally measured from the tip of the sacrum, rather than from the sacro-coccygeal joint.

D. INTERNAL PELVIC EXAMINATION

1. The diagonal conjugate, the most important pelvic diameter, is often measured carelessly or even omitted in primipara, due to the pain produced when attempted too early in gestation, or when due to unskilled technique. Even at the optimum time of seven months, the procedure may be an ordeal if not skillfully conducted.

The patient's instinctive reaction is to constrict the introitus by an almost spasmodic contraction of the sphincter vaginae, the anterior fibers of the levator and the transversus perinei muscles. Asking the patient to "bear down" or "strain" is not usually understood, and there is more contraction rather than relaxation.

Success is more likely if the patient is asked to "sit down as if trying to reach a chair." Relaxation follows and pain is often completely obviated. Another additional help is to request the patient to raise her hips, and at the same time rotate the pelvis forward. This maneuver elevates the symphysis, relatively depresses the promontory and promotes perineal relaxation. By these methods a maximum examination range is permitted with the minimum of discomfort to the patient, especially if she is reassured by gentleness and has an understanding of what is to be expected.

—JKMS—

Medicine is a progressive science and knows not the meaning of stagnation. We must either advance or retreat. Hindering and hampering obstacles in the paths of advancement can result in but one thing—retreat, with its detrimental effect on the health of mankind.—C. W. Waggoner.

PRIMARY SPINDLE CELL SARCOMA ASSOCIATED WITH A PRIMARY SCIRRHOUS CARCINOMA

WILFRED C. CURPHEY, M.D.*

Kansas City, Kansas.

Until 1912 only three cases of two malignant tumors occurring simultaneously in the same breast had been reported. Since that time eleven more have been added. Eight of these were not truly separate tumors, but apparently were carcinomata later developing sarcomatous elements. Such were the cases of Kerberion and Danel¹, Secousse², Wehner³, Coenen⁴, Pfeiffer⁵, Dorsch⁶, Lecene⁷ and Helwig⁸.

CASE REPORTS

Mrs. Sarah D., a colored woman, aged thirty-three, entered the University of Kansas Hospital, complaining of painful swollen joints. During the course of examination an ulcerating tumor mass was found in the left breast. She first noticed a small lump in her breast one and one-half years previously. At the time it was about the size of a pea and quite firm. For several months it remained the same, then it suddenly began to increase in size. Three weeks before admission the skin over the tumor became indurated and resulted in frequent hemorrhages. At the time of examination the mass was quite tender and was bleeding from the ulcerated area, which had become infected.

A radical breast amputation was done from which the patient did not recover and came to autopsy on the second postoperative day.

Gross Pathology—The breast is found to be distorted by an indurating tumor mass. The skin is attenuated and dissolved over the prominent portion of the swelling. At this point there is an indurated area about two centimeters in diameter. The nipple is fixed and retracted. The tumor is quite soft and is cystic in consistency near the center. It is fairly well outlined and movable over the super structures, except near the lower outer pole where an irregularity in the outline blends with the surrounding tissue and is firmer in consistency.

On section two distinctly different areas are seen. The one, which is more superficial, measures sixty by twenty-five millimeters and is distinctly outlined but not encapsulated. This tissue cuts with slight resistance and pre-

sents a pale homogeneous, cellular tissue, in which areas of necrosis and hemorrhage are visible.

A second tumor mass, measuring thirty by fifteen millimeters, lies below and deeper in the tissue. This area is indurated and poorly outlined with cellular processes extending into the surrounding tissue. It cuts with resistance, a gritty sensation, and the cut surface shows numerous pale yellow, anastomosing markings embedded in a gray and more cellular ground substance. Creamy yellow plugs can be expressed from the cut surface.

The only metastatic growths are found in the liver where there are many larger and smaller white, indurated, umbilicated nodules. These metastatic nodules are more numerous and tend to fuse together in the left lobe of the liver while the right lobe is fairly free from growth.

Histological Pathology—The sections of the breast show two predominating tissue structures; the one being epithelial in origin; the other developing from stroma. The latter tissue or sarcoma presents a wild atypical architecture. It is very cellular with little connective tissue stroma. The cells tend to arrange themselves in bundles "combing away" from the blood spaces, which are quite abundant. The tumor cells often lie directly on the endothelial lining. Although there is a great variation in size and shape, spindle cells predominate. The cell outline is indistinct in many areas and there is quite a marked variation in size, shape and staining reaction of the nucleus. Here and there nests of shrunken, polyhedral epithelial cells are found embedded in the sarcomatous structure. There is a distinct tendency to degeneration in these nests, thus forming atypical acini. The nuclei of these cells also show polychromatic tendencies but mitotic forms are rather infrequently encountered.

Directly adjacent to this tumor there is another type of growth which presents a wild architecture, epithelial in character. Here nests of degenerated epithelial cells are found surrounded by thick bands of dense, hyalinized, connective tissue. The tumor in this area is quite invasive. The cells are small, irregular in shape and outline and for the most part the nuclei are hyperchromatic and small. In addition, there is considerable inflammatory reaction.

Histological examination of the liver reveals no evidence of sarcomatous growth throughout

*Department of Surgery and Pathology, University of Kansas School of Medicine.

the tissue. However, larger and smaller nests of shrunken atypical epithelial cells are found embedded in a dense hyalinized connective tissue matrix. These areas are more cellular about the periphery while in the center hyaline stroma predominates.

Discussion—Since the advent of experimental mouse tumors many writers have observed in animals the simultaneous occurrence of carcinoma and sarcoma in the same animal. Most of these cases have been the result of sarcomatous changes in the stroma of carcinoma after many transplantations of a single tumor.

Such pathology in the human is quite unusual and only fourteen such cases of double breast malignancy have been reported up to 1931. Here again most of these cases have shown sarcomatous changes in the stroma of epithelial tumors. Only four of this group were truly separate and distinct malignant neoplasms. These are the cases reported by Gould⁹, Schlagenhauser¹⁰, Kennedy and Case¹¹, and Kettle¹². Two other cases reported were sarcomatous growths associated with metastasis from a primary varinoma of the breast. In both of these cases there is a strong possibility that the sarcomatous growth came from elsewhere. This is particularly true of the case of Schwartz¹³, where metastasis in the shoulder and abdominal wall near the umbilicus came from a sarcomatous tumor of the uterus while the associated carcinoma metastasis in the axilla came from the primary growth of the left breast.

The tumor under discussion is considered to fall in the group of separate primary malignancies, principally because of the anatomical arrangement existing. In the light of Russell's experimental work¹⁴, it is very possible that the carcinoma could have had sarcoma propagating properties similar to the mouse tumor number 100. This is unlikely in this instance for several reasons, namely, the metastatic carcinoma in the liver had no associated sarcomatous growth; second, there was no tendency for the sarcoma to overgrow the carcinoma, a phenomena which almost invariably occurred in Russell's mouse tumor. That the carcinoma could have been secondary to the sarcoma is also plausible in the light of the findings reported by Nicholson¹⁵.

In other words, either of the two tumors could have stimulated the growth of the other or both could be entirely independent and

caused by the same ultimate factor that is responsible for all malignant growth.

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—JKMS—

Archibald L. Hoyne, Sidney O. Levinson and William Thalbimer, Chicago (Journal A. M. A., Sept. 7, 1935), found that of 862 home contacts who gave no history of scarlet fever and were passively immunized with convalescent scarlet fever serum, scarlet fever did not develop in 97.2 per cent. Of eighty-three Dick-positive hospital contacts immunized with convalescent scarlet fever serum, scarlet fever did not develop in 95 per cent. In immunized contacts in whom scarlet fever developed, it was usually in a modified form, believed to have been produced by partial immunization and resultant sero-attenuation. Convalescent scarlet fever serum in adequate therapeutic doses administered early may abort the disease and usually causes recession of fever, diminution of toxemia and angina, and fading of the rash and appreciably shortens the period of illness. Convalescent scarlet fever serum, directly or indirectly, either prevented the development of complications or reduced the frequency of their occurrence. The influence of serum on late and complicated cases was less marked but frequently seemed beneficial. By reducing the severity of the disease and the incidence of complications, the mortality rate was definitely diminished. No unfavorable reactions, serum sickness, sensitization or anaphylactic shock were encountered with the use of human convalescent scarlet fever serum.

PRESIDENT'S PAGE

BASIC SCIENCE LAW

To the Members of the Kansas Medical Society:

The human family has been subject to sickness and injury from the beginning of time, and when illness besets a member of this family he begins to look about for someone to relieve his distress. And always he has been able to find one who will, at least, attempt to cure him.

Now, the practice of healing is a profession requiring a knowledge and a skill which are acquired only by years of application and study of the sciences that are essential to such a profession. The human body is such a marvelous structure, the mechanism so delicate and so intricate, that it is the rankest folly for anyone to attempt to repair or remedy this wonderful machine without first securing all the preliminary knowledge available. No one should be allowed to use any means of treating and healing the sick until he has had this scientific training in the basic principles and elements which have to do with the human body.

In our state the law requires greater knowledge and skill in the treatment of animals than it does in the treatment of human beings. All states have some queer laws, but this is more than queer—it is a crime to place a lower value on human life than that of animals, and the public should know the law, and demand a higher standard for the treatment of mankind.

It is only by demanding of those who practice healing the same standards in education and the same knowledge of the sciences that relate to the human body that the public will secure the protection necessary to life and happiness. This knowledge is supplied through the regular channels of the educational systems of our country and is not controlled by any cult or clique, but is available to all who care for a higher education.

In our state there is a new program suggested for regulating those who engage in the profession of healing. This program is that of the proposed Basic Science Law and is not entirely new, either, as it has been presented to our state legislature twice in recent years, and the only reason it was not enacted by that body was that the public had not been sufficiently enlightened as to the provisions of the bill,—the

protection afforded by a uniform standard for all who practice healing.

A Basic Science Law has been adopted in nine states, namely: Arizona, Arkansas; Connecticut, Iowa, Minnesota, Nebraska, Oregon, Washington, Wisconsin, and the District of Columbia. Other states are planning legislation of this nature. The law enacted is quite similar in each of these states and makes the basic sciences the foundation for defining and regulating the practice of healing, and requires the same basic education for all who wish to practice the healing art.

The basic sciences include anatomy, bacteriology, chemistry, hygiene, pathology and physiology. Some states have added other branches, but those named are the essential sciences.

The Basic Science Law as proposed at the last session of our legislature provides for a board of five members to be appointed by the governor for a term of four years. The board is to be composed of two full time professors of the basic sciences from colleges in the state accredited by the University of Kansas, one doctor of medicine, one osteopath, and one chiropractor. Any person so ignorant of these sciences named that he cannot satisfy such an examining board will be excluded from the profession of the healing arts.

Those who criticize this law do not understand the difference between a science and an art, and ask how it is possible for such a board, not composed entirely of practicing physicians, to give such an examination. This examination is simply in the sciences named, and not in their application. A person who qualifies before a basic science board must then appear before the proper professional board and prove his ability to apply the arts of these sciences which relate to the prevention, relief and cure of illness and injury.

The proposed Basic Science Law would not affect any of the present licentiates of any system of practice. It would pertain only to those applying for a license after the enactment of the law.

In conclusion, I would suggest and urge that, before the next session of the legislature, an earnest effort be made to hold a joint meeting of representatives of the state organizations of the three main participants to be affected by the law, and talk over the situation, and, by frank expression of opinion, come to a definite understanding.

J. F. Hassig, M.D.

EDITORIAL

ABSTRACT JOURNALS

The established popularity of digests and abstract magazines is a development in the publishing business in recent years. This is a manifestation of the quest for speed and an indication of superficiality in reading. Speed in reading is likely to be at the expense of thought. It is an escape from reading by the short-cut method of synopsis, leaving out the brain work of following the technical details and mental processes indicated in the original articles.

Ever on the alert to capitalize a fad, enterprising publishers have fostered the appetite of the public for speedy, short-cut methods of reading, until America has attained a serious case of literary indigestion. This applies to physicians, for a more recent development in abstract publication is the Medical Abstract Journals which are distributed free to the medical profession. These are supported entirely by advertising and because of the large circulation they are able to command high advertising rates. The articles abstracted are usually poorly condensed rehashes from medical journals which have not gone to the trouble to copyright their issues.

The ethics of advertising and those of medicine are at such variance that such advertising media as these free abstract journals, are quite obnoxious to the medical profession. We must depend upon advertising to support our ethical medical journals and it is our policy to seek ethical advertising and encourage our paid subscribers to patronize our advertisers. As the medical profession is looked to to keep its own house in order, we suggest to the advertising profession that it take the matter in hand and deal with these unethical publications according to the rules of their profession.

We suggest to physicians that their regular medical journals contain all the abstracts that are well for them to read. The careful reading of full medical articles, following the

thread of logic of the authors through to the conclusions, is necessary to medical knowledge, while the reading of abstracts is the habit of a lazy mind.

"THE DOCTOR'S BILL"

Having read Dr. Hugh Cabot's newly published book, "The Doctor's Bill" we feel the views of the distinguished author on medical and economic maladjustments are mirrored in the review which appears in the September issue of the Southwestern Medicine magazine. Physicians generally will recognize and admire the author's background of knowledge, his candor and courage in dealing with a difficult subject:

"If I read Cabot correctly he says there is a better grade of medical services available to the American public than the public is at present obtaining—in most instances. The economic problem permeates here and there and everywhere and more than anything else prevents good service. The title of the book "The Doctor's Bill" may be taken literally to mean that little scrap of paper so often destroyed, in anger, and accompanied with the words "the damned robber" or some other such phrase, and hence be emblematic of the economic question. Or the title may be construed in a quasi-legal sense to mean the bill of particulars in the case now in the court of Public Opinion entitled "The People vs. The Care of Their Health."

Cabot says that physicians should be grouped together so that whatever expert services a sick man needs may be given by one specially trained in the illness and at an average fee irrespective of the financial rating of the patient. In the smaller communities the groups will perhaps not have the same high attainments of perfection in rendering service as those in the populous districts may have, due to the fact simply that those seeing large numbers of a certain ailment naturally become more experienced. The difference between the two groups, however, will not make much dif-

ference, except in the rare case. The matter of working in groups is largely an adjustment of temperaments and a full realization that only by so doing can the highest type of service be consistently rendered.

Having physicians in groups promotes specialization among them and permits two or more needed specialists to work upon a case. The charges will be less than would be if separate consultants had to be called.

Unless the group idea prevails, with an adjustment of incomes without considering work done, the physician whose specialty is internal medicine may be impelled to take care of a case of obstetrics or to remove an appendix because the one hundred or the two hundred dollar fee or both are needed to pay the accrued bills of the past months. Or the surgeon not having collected some of the hundred-dollar fees he has charged feels compelled to treat a case or cases of pneumonia or rheumatism. It goes without saying that these cases vicariously treated may have just as excellent care as though they had been treated by the men especially trained in the treatment of the respective diseases in question. On the other hand we know that every now and then the results in a case treated by the proper expert rather than by the improper expert may be as far separated as are life and death.

Cabot is unequivocally opposed to the sliding scales of charges as now more or less generally practiced by physicians. Quoting, "the custom has tended to act like a burr under the saddle of public opinion." To make up for the few large fees which physicians now get he would have the indigent and semi-indigent have medical attention at the expense of the state. The low income group he would have banded in some sort of an insurance scheme so that they would have the advantage of mutualization of costs not only for medical attention but for hospitalization.

The plans for the coming changes—they are coming, if not almost here, he says—should be made by far-seeing physicians but the execution

of the changes or at least the purely economical features should be placed in the hands of those trained in economics. Quoting, "It does not seem to me probable that the public will be prepared to turn over to the medical profession, which, as far as I know, has made no outstanding reputation in the field of finance, the management of the enormous sums which will be involved here."

He would have us realize that the great need at the present time is for thorough organization within the medical profession in order to deal with representatives of the public in an efficient manner; capable members of the profession in a position to devote time and attention to social and economic problems should be selected to represent the profession in discussions with the public.

While physicians more or less generally may disagree with many of the pronouncements and conclusions of the book, it must be remembered that the book is written from as nearly a disinterested standpoint as any physician can have by a physician of no mean attainments. There is plenty of evidence in the book that the author has devoted long hours to the problems of *The Health of the People* and the economic phases connected therewith. All physicians should read the book."

ILLOGICAL ARGUMENTS

The propaganda for compulsory health insurance, which is accepted as gospel by a number of supposedly liberal publications, is full of contradictions and fallacies which escape the notice of most lay readers. While the avowed purpose of this system is to prevent disease—or at least reduce morbidity—and raise the standards of medical care, no statistical data are presented to show to what extent these hopes have been realized in countries with obligatory prepayment. As a matter of fact, there is nothing to indicate a decrease in morbidity anywhere due to sickness insurance. In the field of prophylaxis a highly important gauge—the extent of immunization against

diphtheria—shows the United States and Canada to be far ahead of any nation with forced prepayment. From the viewpoint of quality also the service available to the lower middle classes here far surpasses that obtainable by comparable economic groups anywhere in Europe. Is it an accident that these highly relevant facts are invariably ignored by the advocates of sickness insurance?

On the economic side similar evasions are practiced. The protagonists of obligatory sickness insurance pose as friends of the low-paid worker but they neglect to mention that in most countries the workers themselves were the bitterest opponents of this system. Labor's antagonism is entirely understandable to the initiate. According to the report of the Committee on Costs of Medical Care and others friendly to health insurance, only about 10 per cent of the population is unable to defray the expenses of illness in normal times. To supply the needs of this 10 per cent it is proposed to levy a tax on workers in the low income class. The amount deductible each week, in the case of the healthy 90 per cent, means a decline in living standards and a diminution of the likelihood of accumulating a small capital by regular savings.

Some observers remind us that there is a direct correlation between low income and high morbidity—and then leap to the illogical conclusion that compulsory health insurance would sever the casual chain. As in the basic problem, the remedy here is economic rather than medical; employment at adequate wages so that the worker may enjoy a decent standard of living and, in the event of illness, pay for all but the protracted or special services which are not covered by insurance in most countries anyway.—*New York State Journal of Medicine*.

DINITROPHENOL

The recent report by Tainter and co-workers of their experience with the thera-

peutic use of dinitrophenol in a series of cases of obesity emphasized that its administration was the method of last choice. The disadvantages of administration have been the production of undesirable side reactions which were unpredictable and occasionally alarming. The authors note that cataract developed in one of the patients in the series six months after discontinuance of the drug.

The use of the drug would be limited in the treatment of obesity by its proponents to those individuals in whom all other methods of control fail; in other words, to the group in whom sometimes relatively minor decreases in diet were not obtained in the attempt to balance energy intake and outgo. But the caloric deficit to be obtained by safe doses of dinitrophenol is not greater than that gained by removing from the diet two pats of butter at each meal, as stated by Evans. If a patient is unwilling or unable to cooperate to that extent, he would seem a poor subject for the use of a drug with admittedly definite risks. It would seem that continued obesity in such individuals might be much less hazardous than the treatment. Accordingly, dinitrophenol would not seem to merit a place in safe and non-meddlesome therapy.

The drug undoubtedly has great value in animal experimentation as it is a powerful stimulant of tissue metabolism, probably by direct action on the cells. It does not produce pulse acceleration and stimulation of the central nervous system similar to that noted after large doses of thyroid extract. Clinically, when a metabolic stimulant is indicated and thyroid substance is used, such reactions are a part of its virtue. They act as danger signals, which, along with determination of the basal metabolism, make such controlled thyroid therapy relatively safe and free from the subtle and insidious risks of dinitrophenol administration.—*Minnesota Medicine*.

CASE REPORTS

HERNIA INTO THE BROAD LIGAMENT*

E. A. REEVES, M. D.

Kansas City, Kansas

Hernia into the broad ligament or between its folds is difficult to explain. It has been suggested that some embryo-logical or traumatic factors might predispose to this condition, but it has never been proven and no one yet has been able to give a reasonable explanation for their occurrence.

It has also been suggested that the peritoneum may have been weakened or torn between the fallopian and the uteroovarian ligaments by increased intra-abdominal pressure or trauma during pregnancy or labor, but this has never been proven.

In a review of the literature recently only fifteen reported cases could be found.¹ In five of these cases, the hernia was between the layers of the broad ligament, eight were through the ligament, and two were undetermined.

Report of Case.—Mrs. S. age twenty-seven, weight 100 to 106 pounds, married, mother of one child, three years old; delivered by Caesarean section for severe toxemia, albuminuria and hyper-tension of 182. A classical operation was done, and the patient made a nice recovery and left the hospital in about the usual time with her baby, the toxemia having entirely cleared up.

On February 6, 1935 she was taken with severe pain in the lower abdomen, very excruciating and relieved only by morphine hypodermically.

Acute appendicitis was suspected as there was no nausea, but marked tenderness and muscular rigidity. She was moved to the hospital, and as the symptoms did not improve, the abdomen was opened under ether anesthesia. The appendix was located and removed and although congested did not account for the severe symptoms. Upon exploration of the pelvis the uterus was found to be enlarged to the size of a three months pregnancy and very dark in color.

To the right of the uterus on the posterior wall of the broad ligament was a dark con-

gested mass which proved to be the right ovary and tube protruding through an opening in the broad ligament. The broad and round ligaments were twisted like a rope and very dark from congestion.

Being unable to reduce the hernia, the ovary and tube were removed; the stump passed back through the opening in the ligament which would admit three fingers easily.

This rent was repaired, all hemorrhage was controlled, and the abdomen closed with a small wick drain, which was removed on the third day. Two Friedman tests for pregnancy were made and both were negative. During this time the patient was making a nice recovery with an occasional spotting, but no pain or uterine flow.

A bimanual was done before she left the hospital, but on account of tenderness was unsatisfactory, but a mass could be felt in the pelvis, both externally and per vagina.

A month later the mass and tenderness had both disappeared and the lower abdomen was soft and free from tenderness. She reports herself well, free from pain and attending to her usual household duties.

SUMMARY

Hernias may occur either into the pouch between the layers of the broad ligament, or through an opening in the broad ligament caused by trauma or some congenital weakness of the pelvic structures. They are emergency cases and prompt surgical relief the only treatment.

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ARTIFICIAL EYE REMOVED WITH LARYNGEAL MIRROR.

MAURICE A. WALKER M.D.*

Kansas City, Kansas

About six o'clock on the evening of July 28, 1935, a young man, aged twenty, came running into my home, crying with pain and stating that his artificial eye had "exploded" a few minutes previously. The day had been hot, with the temperature 101 F. throughout most of the afternoon. At 4:30 o'clock, the

*Read before the Wyandotte County Medical Society, April, 1935.

*From the Department of Surgery of the University of Kansas.

boy had gone into a swimming pool for an hour. As he was riding homeward in an automobile, he had heard and felt a cracking sensation in his artificial right eye. A severe cutting pain in the orbit immediately ensued, and he was unable to remove the eye. He had worn an artificial eye for six years, after enucleation following an injury. He had been wearing the eye, which caused his present complaint, for eight months. He had had no similar trouble previously.

The artificial eye seemed to be adherent to the conjunctiva lining the orbit. Manipulation in an attempt to remove it caused exaggeration of his pain. By pressure on the lateral surface of the eye, the inner edge could be seen, but could not be grasped with the fingers so as to exert strong traction. Hurriedly surveying my armamentarium for something to slip behind the artificial eye to aid in its removal, a small laryngeal mirror seemed suitable. I introduced this instrument at the lower inner edge of the eye, freed the conjunctiva from the posterior surface, and the eye was then easily removed.

In the center of the posterior surface of the eye was an irregular jagged opening eight mm. in diameter. The fragments of glass had fallen into the cavity of the artificial eye, allowing folds of conjunctiva to be caught by the sharp edges of the broken glass. The conjunctiva was abraded and superficially lacerated at the site of its incarceration, but healed rapidly.

location, etc. Grading, if it is to be practical from a prognostic standpoint, must involve a very close correlation of all facts. A tumor may be classed as a relatively benign, such as grade 2, yet, if all the tumor is not removed or destroyed, the patient will sooner or later, die from a progressive, slow growing malignancy. As a rule, relatively slow growing malignancies are found in elderly people. The most common malignant tumor found in young people is the sarcoma, a malignant tumor of connective tissue origin and relatively fast in growth.

The clinician must take into consideration that it is very difficult to determine just how malignant some tumors are, altho it is a very simple matter to grade a tumor of high malignancy. Grading is not attempted in the melanomas. In tumors of the breast and uterus it is valuable, but of questionable degree, while in tumors of the skin and rectum grading is of distinct value. While there is considerable questions as to the value in some cases from a prognostic standpoint, there can be no doubt as to its value in determining the radio-sensitivity of many tumors. Geschickter states, "I have observed a patient with what appeared to me to be a central giant cell tumor (benign) which was first curetted. Later a low amputation of the leg was performed because of recurrence in the marrow cavity above the site of the primary tumor. This patient died seven years after the amputation and a bone-forming tumor was found in the pleural cavity."

Broders introduced the system for grading tumors by designating them as grades 1, 2, 3 and 4, grade 1 being the least malignant, while grade 4 is the most malignant. In determining the microscopic degree of malignancy factors to be considered are: Variations in size of the nuclei; chromatin content of nuclei; number and type of mitotic figures; and cellular relationship. In general, grades 1 and 2 are considered to be amenable to treatment and when adequately treated a favorable prognosis can be given. Grade 3 is considered a type that is very questionable as to the value of treatment, and grade 4 is considered hopeless.

There are some tumors that present a definite microscopic picture of malignancy, such as parotid tumors and teratomas, yet clinically many of these do not recur or justify the microscopic appearance.

In certain branches of specialized pathology, such as bone tumors, brain tumors and etc., the

LABORATORY

Edited by J. L. Lattimore, M.D., Topeka, Kansas

TUMOR GRADING

J. L. LATTIMORE, M.D.
Topeka, Kansas

Broders of the Mayo Clinic is entitled to much of the credit for the adoption of the present day method of grading of tumors, with the idea of establishing the degree of malignancy. There can be no doubt that such men can accurately grade a vast majority of tumors, establishing the approximate prognosis, so far as a cure or recurrence is concerned.

There are many factors that influence the degree of malignancy of a given tumor, such as age of the patient, duration of the tumor, exact

surgeon must not take grading too seriously for the location, duration and clinical picture must all be considered in making the prognosis. It is highly important in bone tumors, before operative procedure, to make a thorough x-ray study of the lungs for early metastasis. In giant cell tumors the number of nuclei and their location within the cell are important factors to consider.

Often, a new growth is mistaken for a metastasis. Recently a breast tumor, in a patient having had a melanotic sarcoma on the foot, was feared until removed and found to be a fibroma. A tumor in the site of an operative wound, in a carcinoma case proved to be a keloid when excised.

In submitting specimens for examination, especially in large masses of tissue such as a breast, it is advisable for the surgeon to help select the places for a sectioning, for often the preserved specimen will change its gross appearance. If the pathologist's report does not correspond to the surgical diagnosis resubmit more specimens from different locations.

TUBERCULOSIS ABSTRACTS

SOFTENING OF THE CASEOUS TUBERCLE

1. Tuberculosis in its epidemiologic aspects has its source in a specific pathologic phenomenon, softening of the caseous tubercle.

This is the key problem in tuberculosis. If caseous tuberculosis did not soften the disease would be practically self limited. The course of pulmonary tuberculosis may be summarized as follows. Following infection, cellular and subsequent caseous tubercles are formed and some of these soften. Caseous matter discharged into the bronchioles is aspirated. New tubercles are formed, some of which in turn soften. If the softened matter is coughed out, it may infect other people.

2. The phenomenon of softening of the tubercle has long been recognized but not commonly identified as a specific pathologic process, distinct from caseation.

Laennec described the softening and liquefaction of caseous tubercles and their significance, but in modern textbooks the two phenomena of caseation and softening are com-

monly not separated, and the distinctive nature of the latter process is not stressed.

3. The significance of softening of the caseous tubercle for epidemiology lies in the fact that associated with it is an enormous multiplication of tubercle bacilli. The latter are commonly hundreds or thousands of times as numerous in the semiliquid contents of softening caseous nodules as in the necrotic walls of old cavities.

Even less attention has been directed to the collateral event with the softening, namely, an extraordinary multiplication of tubercle bacilli. Koch noticed that tubercle bacilli were present in greatest number in the interior of cavities, the walls of which are undergoing rapid liquefaction. When the product of tubercle infiltration first discharges into a bronchus it has maximum infective power. Not before nor again after are tubercle bacilli to be found in the region concerned in as great number. The soft yellow lumps sought by the technician examining sputum are nothing more than bits of debris from the liquefying caseous nodules.

4. Three types of case (illustrated by reports in the article) may be distinguished in a general way on the basis of the number of bacilli in the softening regions, a chronic type with a moderate concentration of bacilli in the softening lesions, an intermediate type, and an acute type with vast numbers of bacilli.

The three cases cited were an elderly Jew with pulmonary tuberculosis of exceptional chronicity, a young American white adult with pulmonary tuberculosis of ordinary duration and a Negro child with "adult type" tuberculosis of extraordinary severity and rapid progression. All three died and came to autopsy. The phenomena of softening and bacillary multiplication were qualitatively the same in all three but varied quantitatively with the type of case. They represent the two extremes and the average in the intensity of the processes concerned. All three cases exhibited the presence of enormous numbers of tubercle bacilli in caseous lesions undergoing softening and the number of bacilli was much greater in the softening lesions than in the walls of old cavities (commonly considered the chief source of spread of bacilli).

5. The fundamental nature of the process of softening is still unknown. It is not equivalent to suppuration. Attempts to put it on an allergic basis have been entirely successful.

Neither the cause of the softening nor the

explanation of the enormous number of tubercle bacilli present is definitely known. Softening is not due to the proteolytic action of leucocytes, present as a result of secondary bacterial invaders. Bacteria and fungi not chemotactic for leucocytes but possibly rich in proteolytic enzymes, do not account for it. That softening is an allergic process has been suggested but there are several objections to this view.

It is not yet clear whether the tremendous growth of tubercle bacilli precedes or follows the softening. If subsequent research proves that the softening comes first, the multiplication of bacilli can be explained on the basis of the new opportunity afforded by the softening for oxygen ingress and flow of fluids containing nutritive elements. Lurie has suggested this for the analogous process in tuberculous animals.

6. The softening tubercle should receive more clinical consideration than is at present the case. Successful treatment of tuberculosis by lung collapse owes its favorable outcome as much to prevention of drainage of liquefying tubercles as to the obliteration of large cavities. Lung collapse, improperly applied, particularly with excessive pressure, even when obvious cavities are obliterated, may result unfavorably through expulsion of highly infective liquefying matter into tributary bronchioles. The most appropriate lung collapse, as far as the softening tubercle is concerned, is that which stops motion of the lung and partially or completely obliterates the small bronchiolar outlets from the liquefying masses.

Unfortunately, softening lesions can probably not be recognized clinically. Even roentgenograms do not distinguish unsoftened and softening caseous nodules until the latter progress to small cavities. Yet from the standpoint of treatment the subject is highly significant. To prevent the spread of the disease inside the lung or to other persons is the ideal treatment. The only method of absolute prevention would be obstruction of the outlet of the developing cavity. In a motionless lung the discharge of softening contents of a new cavity is not likely. Proper pneumothorax will tend to prevent escape of the contents but improper pneumothorax (with positive pressure) might result in expulsion of the semiliquid, bacilli-rich mass and aspiration into healthy parts of the lung.

From Pathology to Epidemiology in Tuberculosis, Esmond R. Long, M.D., Journal of the American Medical Association, May 25, 1935.

MEDICAL LITERATURE

Edited by Will C. Menninger, M.D., Topeka, Kansas

BASAL METABOLISM

The basal metabolism of a group of elderly people was measured in their homes by a field worker in a research study conducted by the Nutrition Laboratory of the Carnegie Institute. Simple apparatus consisting of a mouth piece and a noseclip was used. Extensive discussions and charts in regard to best production per square meter of body surface referred to age, heat production per kilogram of body weight referred to weight, prediction of the metabolism in old age, and physical and mental vigor and metabolic level are included in the article by Benedict which explains the results of the study.

Benedict, Francis G. *Old Age and Basal Metabolism*, New England Journal of Medicine, 212: 1111-1122, June 13, 1935.

TREATMENT OF RECTAL DISEASES

Steinberg presents a study of Nupercaine Phenol solution as a treatment of acute and chronic fissure-in-ano in thirty patients. Little or no discomfort followed the use of nupercaine solution in contrast to the occurrence of severe pain after the use of Benacol or Gabriel's original solution. No significant complications occurred, and treatment can be given to ambulatory patients without inconvenience or loss of time. A detailed description of the method of injection is included in the discussion.

Steinberg, Naaman, *Recent Advances in the Treatment of Rectal Disease by Injection Methods in Ambulatory Patients: I. The Use of Gabriel's Modified Solution in the Treatment of Fissure-in-Ano*, New England Journal of Medicine, 213:162-164, July 25, 1935.

MENTAL DISORDERS AND DIABETES MELLITUS

This is a study of the relationship between mental disorders and diabetes as shown by thirty cases of mental disorder associated with diabetes, ninety-three cases of uncomplicated diabetes, and four hundred uncomplicated cases of mental disorder. It includes discussions of the psychological picture in diabetes, the courses of mental disorder associated with diabetes, and the mental symptoms with hypoglycaemia.

The conclusions drawn are that diabetes does not determine the type of mental disturbance that may be associated with it except in the small group of cases called true "diabetic

psychoses"; that psychological conflicts may be an important etiological factor in many cases of diabetes seems very probable, altho as yet this is unproven; and that mental disorder and diabetes never occur independently in the same individual at the same time.

Menninger, William C.: *The Inter-Relationships of Mental Disorders and Diabetes Mellitus*, J. Men. Sc. 81:332-357, April 1935.

CYSTS OF THE TESTICLE

Jenkins and Deming report a cyst of the testicle. Classifications of this disease are cysts of the tunica albuginea and cysts of the testicle, but differential diagnosis of the two can only be made by microscopic study. Altho a review of the literature on the subject suggests retention, trauma, gonorrhea, or congenital abnormalities as etiological factors, the authors offer none in this case as there is no history of gonorrhea, injury, or abnormality of the testicle. There are no diagnostic features of this disease, and as yet there is no means of differentiating an early malignant tumor and this disease.

Jenkins, Ralph H. & Deming, Clyde L.: *Cysts of the Testicle*, New England J. Med. 213:57-59, July 11, 1935.

HEMORRHAGIC CYSTITIS AND TUBERCULOSIS OF THE PROSTRATE

Phelps presents a case of hemorrhagic cystitis and one believed to be tuberculosis of the prostate. Both patients were operated upon and have since been restored to their usual health. Both are working, it being one year and six months, respectively, since the operations.

Phelps, O. Draper: *Hemorrhagic Cystitis and Tuberculosis of the Prostate*, New Eng. J. Med. 213:43, July 11, 1935.

ARTIFICIAL PNEUMOTHORAX IN LOBAR PNEUMONIA

The authors report the results of artificial pneumothorax on a series of forty patients with lobar pneumonia. The mortality for this group was thirty-five per cent as compared with fifty-one per cent in a control group of one hundred patients treated by other methods. They also found that artificial pneumothorax relieved pain, dyspnea, cyanosis, and "toxicity", and shortened the febrile period and thus the number of hospital days per patient. It was found to be of little aid, however, in the treatment of well-established pneumococemias and

in the prevention of the more severe complications of lobar pneumonia.

Behrend, Albert; Tuck, Vernon; Robertson, William Egbert: *Artificial Pneumothorax in the Treatment of Lobar Pneumonia*, J. Lab. & Clin. Med. 20:914-919, June 1935.

FAT EMBOLISM

Jirka and Scuderi were unable to confirm the findings of Riedel in their study of fatty casts in the urine of fresh fracture cases. Two hundred miscellaneous hospital cases were used for the control urine examination. Care was taken to have the patient completely empty the bladder. No free fat was found in any of these cases. Examination of the blood serum revealed no free fat either. An examination of fifty fresh fracture cases, all male patients, failed to reveal any free fat droplets in either the urine or the blood serum.

Jirka, Frank J. & Scuderi, Carlo S.: *Embolism*, J. Lab. & Clin. Med. 20:945-947, June 1935.

SULPHUR AND ARTHRITIS

From a study of one hundred cases of arthritis treated with colloidal sulphur injected intravenously, Rawls et al conclude that colloidal sulphur is a valuable agent in the treatment of certain types of the disease. The cystin content of the finger nails was determined in each case, and it was found that when the cystin content was below normal, it was usually increased with sulphur therapy and that the percentage of clinical improvement was greater in those patients with a subnormal cystin content than in those with a normal content. Sedimentation rates and non-filament cell counts were reduced in those cases showing clinical improvement. Doses of from ten to thirty mg twice weekly were, as a rule, well tolerated, but in some cases, the patients developed symptoms of toxicity, none of which failed to disappear in five days or were severe enough to cause anxiety.

Rawls, William B.; Gruskin, Benjamin J.; Ressa, Anthony A.: *The Value of Colloidal Sulphur in the Treatment of Chronic Arthritis*, American Journal of Medical Sciences 190:400-409, September 1935.

BASAL METABOLIC RATE

A study of the three formulas (Read-Barnett, Read Formula 1924, and Gale and Gale) for predicting basal metabolic rate from the

pulse rate and the pulse pressure is made by Comroe. From a study of one hundred patients whose basal metabolic rates were determined by the Sanborn Benedict apparatus and compiled by the three formulas from the pulse rate and pulse pressure, Comroe concludes that there is no significant difference between the results obtained by the three methods. He further concludes that all three methods are too inaccurate and inconsistent to be employed clinically.

Comroe, Bernard I.: Estimation of Basal Metabolic Rate from Pulse Rate and Pulse Pressure, *American Journal of Medical Sciences* 190:371-376, September 1935.

MYASTHENIA GRAVIS

In his sixth report on myasthenia gravis, Boothby takes up the metabolic abnormalities and the etiology of the disease. The therapeutic effects of glycine and ephedrine are discussed but no definite conclusions are drawn as the investigations are still in progress. Manifestations which would lead to an early recognition of the disease are described as ptosis of the upper eyelid, fatigue from walking, talking, or reading, difficulty in masticating and swallowing food, and thick and indistinct speech.

Boothby, Walter M.: Myasthenia Gravis, *Annals of Internal Medicine* 9:143-149, August 1935.

ANTI-HORMONES

Collip presents a summary of the work done which furnishes strong support for the anti-hormone theory which is lately receiving increasing attention. Anti-hormones have been produced in animals treated over a long period of time with anterior-pituitary-like principles. As yet the exact nature and origin of these bodies are essentially unknown.

Collip, J. B.: Recent Studies on Anti-Hormones, *Annals of Internal Medicine* 9:150-161, August 1935.

ENDOCRINOLOGY AND BEHAVIOR DISORDERS

An interesting and intelligent study of the endocrines is presented by Lurie, based on ninety-three cases observed at the Child Guidance Home in Cincinnati. Of the ninety-three cases presenting endocrine disorders, forty-three were of pituitary origin, fifteen thyroid, two pineal, eight sex, and twenty-five pluri-glandular. Forty-five, or practically fifty per cent, of the children were mentally retarded. In the light of the handicaps and limitations

to endocrine therapy, Lurie is greatly encouraged with the results obtained in this series. Of the seventy-one cases submitting to treatment, twenty-four showed good improvement, thirty-five showed fair, and twelve responded poorly. Two case reports are included which show the relationship of endocrinology to behavior and personality disorders and the results of endocrine therapy.

Lurie, Louis A.: Endocrinology and Behavior Disorders of Children, *American Journal of Orthopsychiatry* 5:141-153, April 1935.

THROMBOSIS OF THE LATERAL SINUS

Metzler reports the findings in a review of the cases of thrombosis, or phlebitis of the lateral sinus treated at the Massachusetts Eye and Ear Infirmary from 1921 to 1932 inclusively. He divides the cases into two series, those from 1921 to 1926, and those from 1927 to 1932, and compares them as to incidence, age, sex, recoveries, fatalities, acute and chronic otitis, days of hospitalization, internal conditions, and postoperative complications. Some of the conclusions drawn from the study are that symptomatically it is impossible to distinguish between sinus thrombosis and phlebitis; involvement of the joints are the most common complications; blood cultures are of value as an aid in establishing a diagnosis or at least in focusing attention on the lateral sinus; sinus thrombosis is not necessarily fatal if not treated surgically but the operation is indicated as the best means of aiding the patient to overcome the disease; the percentage of fatalities in general may be considered to be between twenty and thirty per cent.

Metzler, Philip E.: Treatment of Thrombosis of the Lateral Sinus, *Archives of Otolaryngology* 22:131-142, August 1935.

DIURETICS AND CARDIAC OUTPUT

In this study of the circulatory and respiratory functions, Friedman et al show that diuretic drugs may be of considerable benefit to patients who have minimal or even undetectable edema. Diuretic drugs often produce relief from dyspnea, and the vital capacity is increased following their administration. No constant effect on the cardiac output has been observed following the administration of these drugs as occasionally the output is diminished, in some it is increased, and in some no demonstrable change is shown. In favorable circumstances,

diuretic drugs appear to cause benefit both by tending to decrease the load on the heart and by increasing the ability of the heart to carry its load. Whenever rest, reduction of the intake of fluids, digitalis and sedatives fail to produce clinical improvements, the authors urge that diuretic drugs be given a trial, even though there may be no obvious subcutaneous edema.

Friedman, Ben; Resnik, Harry; Calhoun, J. A.; Harrison, T. R.; Effect of Diuretics on the Cardiac Output of Patients with Congestive Heart Failure, *Archives of Internal Medicine* 56:341-350, August 1935.

ENDEMIC MALARIA AND NEUROSYPHILIS

Needles reports the incidence of neurosyphilis in the Amazon Valley. During four years of clinical and laboratory experience with many thousands of natives, he has found but one case. On the other hand, syphilis is extremely prevalent, Kahn and Eagle tests showing 31.8 per cent positive reactions. Malaria also is common, individual surveys in the villages showing from thirty to seventy per cent positive smears. Because most natives acquire the malaria in childhood and, because of inadequate treatment, suffer from chronic malaria with recurring acute exacerbations throughout life, Needles feels that endemic malaria influences favorably the incidence of neurosyphilis.

Needles, Robert J.: Effect of Endemic Malaria on the Incidence of Neurosyphilis, *Archives of Neurology and Psychiatry* 34:618-624, September 1935.

IODINE AND SYPHILIS

Burke challenges the statement of Greenbaum and Cobane that iodine and iodides may be dispensed with in the treatment of syphilis. Burke substantiates his claim with a detailed account of the course of syphilis from the acute stage to the chronic and the effect of iodine in the various stages. In the acute stage, it acts in preventing the formation of a fibrous tissue and in the chronic stage in causing its resorption. The adult effective dose of the potassium salt for oral administration is ninety grains per day, but the most satisfactory method of administering iodine is intravenously in the colloidal form, concurrently with arsphenamine or bismuth.

Burke, E. T.: Role of Iodine in the Therapy of Syphilis, *Archives of Dermatology and Syphilology* 32:404-412, September 1935.

LESIONS AND DEFORMITIES OF THE VERTEBRA

Grier discusses first the wedge-shaped deformity of the body of the vertebra, which is the narrowing of the anterior margin of the vertebral body so that in a lateral roentgenogram it appears to be triangular in shape. This deformity has been contributed to two factors: (1) The center of gravity of the body with the individual erect falls in a plane anterior to the spinal column and causes the body weight to be greater at the anterior margin; (2) The interlocking processes between the vertebrae and, in the dorsal region, the ribs also tend to support the posterior margin of the vertebra and prevent its collapse. Grier adheres to the latter since, as he points out, he has observed x-rays showing this deformity when the patient has not been erect since the injury. He also discusses various other injuries to the vertebra including Kummel's disease and deformities due to softening of the body of the vertebra, including posture curve, osteo-arthritis, osteomalacia, rickets, hyperparathyroidism, tuberculosis, carcinoma, syphilis, Paget's disease, Hodgkin's disease, and osteochondritis.

Grier, G. W.: The Significance of Wedge-Shaped Deformity of the Body of the Vertebra, *Radiology* 25:159-165, August 1935.

SURGICAL MAGGOTS

Messer and McClellan make a study of the value of blowfly larvae in the treatment of chronic osteomyelitis and of other infected wounds. Observations show that when placed in infected wounds, maggots decrease the bacterial population, remove necrotic tissue, and stimulate healing, but there is little exact clinical data to prove casual connection between the presence of the maggots and any of the above effects. Since observations on the healing of lesions are difficult to control, the authors have limited their report to the study of certain phases of the physiology of blowfly maggots in order to show in what manner and to what degree they would be capable of producing their alleged effects. The results of their experimentations show that chronic osteomyelitis wounds, healing in the presence of blowfly larvae develop reactions more alkaline than pH 7.4, in contrast to wounds dressed only with physiologic salt solution; that sterile *Lucilia sericata* larvae produce sufficient am-

monia to account for this excess alkalinity; that excess alkalinity is probably a factor in bacteriostasis and wound healing; that blowfly larvae are shown to excrete a relatively weak proteolytic enzyme, while they contain in their digestive tract a more powerful one; that relative strength and location of these enzymes permit the removal of necrotic tissue from a wound with a minimum of irritation; that the assimilation by the larvae of the protein split products of necrotic tissue removes the latter from the wound where they would otherwise putrefy or be absorbed, to the detriment of the patient; and that maggot therapy depends for its beneficial action on the presence of living larvae which cannot be successfully replaced by pastes or extracts of maggots.

Messer, Frederick C.; McClellan, Robert H.: *Surgical Maggots*, Journal of Laboratory and Clinical Medicine 20:1219-1226, September 1935.

MEDICAL ECONOMICS

Edited by Medical Economics Committee

The Medical Economics Committee recently forwarded a bulletin, outlined below, to the county medical societies as an announcement of the plan developed by that committee providing medical attention to federal and county relief clients.

SUBJECT: THE KANSAS MEDICAL SOCIETY PLAN

The plan for provision of medical attention to work relief and direct relief families described in the following summary and attached sample contracts has been devised by the officers and the Medical Economics Committee of the Society after a six months investigation and study of available plans for this purpose. It is submitted for consideration by the county medical societies with the thought in mind that although certain imperfections are undoubtedly contained, there are also elements of free choice of physician, continuation of the patient-physician relation, recognition of the county medical society as an official health agency, ability for self-financing of medical obligations, and recompense for service on a near cost basis which are both ethically and economically sound and which will enable a safe beginning for experience toward a better method in the future:

I. GENERAL PROVISIONS

1. The county medical society would become an official agency for provision of medical relief.

2. Direct relief clients (county dependents) and work relief clients (federal dependents) would be offered an opportunity to secure medical attention for an amount of \$1.00 per month per family which amount would be regularly paid each month whether or not services are utilized.

3. Members of the county medical society desiring to participate in the plan would furnish attention on a free choice of physician basis.

4. As nearly as possible, complete and adequate medical attention would be provided. However, hospitalization, medicines, and certain other services would not be included, and no obligation would exist for performance of services not reasonably possible or for which adequate facilities are not available.

5. Monthly payments would be made payable to the county medical society, and distribution among physicians would be by any method desired.

6. All applicants for service would be subject to approval by the county medical society, and a privilege would exist for withdrawal of the plan from non-cooperative relief clients. Individual physicians would have a right to accept, refuse, or discontinue attention to particular participating patients in the same manner as in their usual practice.

7. Inasmuch as direct relief clients have no incomes with which to finance the plan for themselves, a contract (similar to the attached sample) would be entered into between the county medical society and the county commissioners for care of these persons. Herein the county would agree to pay the amount of \$1.00 per month for each direct relief client, or family, included within the plan.

8. Since work relief clients do have incomes (\$32.00 to \$79.00 per month under WPA) sufficient to finance the plan for themselves, they would be expected to make their own monthly payments. However, no contract with the county would be necessary for this purpose, and instead individual agreements would be made through the medium of medical cards (similar to the attached sample) which would be mailed or otherwise distributed to these clients with a full explanation of the plan. Payments hereunder would be deposited by work relief clients to the credit of the county medical society in banks within the county, and depository banks would receipt the cards at the time of payment for purposes of identifying paid participants.

9. Druggists and hospitals would be asked to cooperate in furnishing their services to relief clients upon a cost basis. Several good arguments would be possible for this purpose: They owe the same duty of assistance as is owed by the medical profession, and they should be interested in the elements of rehabilitation afforded by the plan. Where this cooperation does not enable provision of necessary incidentals, the county would be asked to provide extra work or other means of assistance.

10. Both the direct relief and work relief agreements would be cancellable upon a desired notice, thereby extending safety to all parties in the transaction.

II. BELIEVED ADVANTAGES

1. A foremost advantage of the plan is thought to be its ability for rehabilitation. Instead of 20% of the public being encouraged in a feeling that medical service is a charitable relation or a governmental obligation, there is opportunity for the greater number of this group to make its own arrangements and to pay its own way. Even though there is probably some necessity for public

subsidization of usual paupers, the above result would seem to offer a better method insofar as the temporary indigent are concerned for both the public and the profession.

2. There are other tendencies away from socialization. All elements are identical to the present system of individualistic practice with the single exception of a necessary alteration in method and amount of compensation.

3. There is a substantial free choice of physician.

4. The patient-physician relation is maintained without intervention of case workers or other third parties for audit and supervisory purposes.

5. Medical relief is systematized in accordance with medical ideals and ethics, and supervised by medical men without governmental subordination.

6. Since indigent care cannot be expected to provide a profitable practice, the amount selected for the monthly charge is necessarily low; yet volume and distribution of risk would tend to make possible a near cost price for physician's services.

III. MISCELLANEOUS INFORMATION

1. *Voluntary Payment*: Although participation is voluntary insofar as work relief clients are concerned, several experiments have indicated that no serious difficulties would be experienced from this cause. However, an educational campaign would be of assistance for explanation and emphasis that the plan is offered only for benefit of relief clients, that it extends a near cost price, that it offers an easy and practical means for securing medical attention, and that it aids in avoiding other unsatisfactory methods and conditions.

2. *Malingering*: A possibility is recognized that certain individuals would attempt to take advantage of the opportunity for service. It is believed that a similar educational process could offset this difficulty. As a last resort particular clients could be denied further participation.

3. *Applicants Accepted*: The plan is intended only for use by WPA and PWA employees, Resettlement clients, direct relief dependents, and others whom the county medical society might desire to include who are actually receiving county and federal relief assistance. It is not intended to be applicable to persons with inadequate private incomes, since additional studies are being made on behalf of the latter group and as other plans are contemplated for their use. Official lists of bona fide relief clients may be obtained from the County Poor Commissioner.

4. *Distribution of Payment*: Payments might be distributed among participating physicians by equal dividend, by a unit system wherein different kinds and amounts of service are compensated on a pro-rata basis, or by other methods desired by the county medical society.

5. *Traumatic Injuries*: Announcement has been made that WPA workers will be entitled to governmental workmen's compensation for injuries received in the course of project employment. As this represents no difference from similar payments received under state laws, it is thought these injuries should be excepted from the service offered. Complete information regarding rules and regulations of the United States Employees Compensation Commission for this purpose will be forwarded to all members in the near future.

6. *Free Choice of Physician*: By reason the plan is medical in scope, only doctors of medicine could extend

service. Kansas laws governing the practice of medicine and surgery and rulings of relief officials might be utilized for settlement of misunderstandings on this point. Also, opportunities for dishonest service would seem to make advisable inclusion of only physicians of ethical standing. In most instances this would mean only the members of the county medical society, but where exceptions occur it is thought an effort should be made to secure the affiliation of all eligible and desired non-members.

7. *Banking Arrangements*: Suggestion has been made by The Kansas Banker's Association that local arrangements be completed in each county through the county banker's organizations for the handling of monthly payments in banks. Although a small charge may be made for this service, it is believed most bankers would be willing to cooperate for the good to be derived to the community.

IV. DISTRICT MEETINGS

The Committee is now making plans to sponsor district meetings during the first part of October in the various councilor districts. All members will be invited to attend the most convenient of these meetings for further explanation and discussion of the plan. Definite announcement of these dates will be made in the near future, and if in the meantime your society would be interested in holding a meeting for preliminary consideration of the plan, particular questions and discussion would possibly be facilitated at the district meetings.

Respectfully submitted,

The Medical Economics Committee
F. L. Loveland, M. D., Chairman
O. W. Davidson, M. D.
L. V. Dawson, M. D.
W. R. Dillingham, M. D.
J. F. Gsell, M. D.
Harry Lutz, M. D.
W. N. Mundell, M. D.

MEDICAL CARD

Issued by.....County Medical Society to approved applicants.

This card, if properly receipted and otherwise in full force and effect for the current month, shall entitleand his immediate dependents to medical attention as provided by The Kansas Medical Society Plan, and as limited and defined by the following provisions:

1. The holder of this card shall pay toCounty Medical Society an amount of ONE DOLLAR (\$1.00) per month for each and every month he participates in this plan. Said payments shall be due and payable on or before the first day of each month, shall be regularly made whether or not services hereunder are utilized, and shall be deposited to the credit of said Society in the.....Bank of....., Kansas.

2. In exchange therefor,.....County Medical Society, through those of its individual members who elect to provide medical service under this plan and who so signify to said Society, will furnish ordinary and reasonable medical advice and attention and where possible ordinary and reasonable emergency surgery to the holder of this card and his dependents when he or they are entitled to such service and request it.

3. It is understood that the services of..... County Medical Society and those of its participating members for the compensation above specified shall not include: Surgery and treatment not within the usual and customary practice of said Society's participating members; surgery and treatment for which necessary equipment, facilities, or incidentals are not adequately available or provided; surgery and treatment for traumatic injuries received in the course of work project employment for which provision is made by the United States Employees Compensation Commission; unnecessary surgery and treatment; surgery in chronic cases; medicines other than those furnished without cost by the State Board of Health or other agencies; laboratory assistance other than that furnished without cost by the State Laboratory; roentgen or radium diagnosis and treatment; appliances; hospitalization; nursing; and dentistry.

4. The holder of this card agrees that he will utilize this plan in good faith, and that he will not make temporary and irregular payments with an intention to secure particular and anticipated services. Likewise, payment in advance for any month in which attention is requested shall be a condition precedent to any obligation on the part of.....County Medical Society or its participating members.

5. Willingness of a majority of..... County Medical Society's individual members to accept a substantial number of patients under this plan shall constitute compliance by said Society with the extent of service contemplated.

6.County Medical Society's individual members shall be privileged to accept, refuse, or discontinue attention to the holder of this card or his dependents in the same manner as in their usual practice. Said members shall also be privileged to designate particular hours and places for examination and treatment of ambulatory patients, to have a reasonable time for appearance at necessary home calls, and to pursue with respect to the holder of this card and his dependents other restrictions that are reasonably in accord with the conduct of their other practice.

7.County Medical Society shall have the right at its option to withdraw this plan from the holder of this card and his dependents, or from all persons, by extending five days notice of such intention and by refusing acceptance of additional payments or tendering refund of pro-rata payment for any unused portion of a month. The holder of this card may likewise withdraw from this plan by extending five days notice of such intention to said society's secretary, and by refusing additional payments or requesting refund of pro-rata payment for any unused portion of a month.

8. In order that.....County Medical Society may have an opportunity to correct misunderstandings and to assist the holder of this card and his dependents to secure all benefits intended herein, it is agreed that said Society shall be entitled to actual notice of any or all complaints and difficulties that may arise or be claimed by said holder or his dependents in connection with this plan. Such actual notice shall be communicated to.....County Medical Society's secretary, and shall serve as a condition precedent to any rights extended hereby.

9. The holder of this card understands that this plan is offered for his benefit, and that it cannot be continued without cooperation from participating patients. He

pledges his fullest assistance in minimizing unnecessary and unimportant requests for attention, in realizing his physician's problems under a plan of this kind, and in doing his part to make the plan successful.

10. By making payment hereunder and by affixing his signature hereto, the holder of this card assents to all of the above provisions and conditions on behalf of himself and his dependent beneficiaries.

No.....; Issued....., 1935; Signed.....

By..... Address.....

Current month	Amount and date of payment	Received
Oct., 1935		
Nov., 1935		
Dec., 1935		
Jan., 1935		
Feb., 1935		
Mar., 1935		
April, 1935		
May, 1935		
June, 1935		
July, 1935		
Aug., 1935		
Sept., 1935		

AGREEMENT

THIS AGREEMENT made and entered into by and between the Board of County Commissioners of..... County, Kansas, hereinafter called party of the first part, and the.....County Medical Society, hereinafter called party of the second part.

WITNESSETH; that for a valuable consideration, the parties agree as follows:

1. Party of the first part hereby selects and employs party of the second part as an official agency of this county to provide medical attention within limits herein described to certain direct relief clients of this county.

2. Party of the first part shall pay to party of the second part an amount of ONE DOLLAR (\$1.00) per month for each direct relief client, or family, who shall be included by party of the first part and approved by party of the second part for medical attention under this agreement. Said payments shall be due and payable on or before the first day of each month; shall be regularly made on behalf of included direct relief clients, or families, whether or not services hereunder are utilized; and shall be deposited to the credit of party of the second part in the.....Bank of....., Kansas.

3. In exchange therefor, party of the second part, through those of its individual members who elect to participate in this agreement, will furnish ordinary and reasonable medical advice and attention and where possible ordinary and reasonable emergency surgery to all direct relief clients, or families, who request and are properly entitled to such service.

4. It is understood that party of the second part's services, and those of its participating members, for the compensation above specified shall not include: Surgery and treatment not within the customary and usual practice of party of the second part's participating members; surgery and treatment for which necessary equipment,

facilities or incidentals are not adequately available or provided; surgery and treatment for traumatic injuries received in the course of work project employment for which provision is made by the United States Employees Compensation Commission; surgery in chronic cases; unnecessary surgery and treatment; medicines other than those furnished without cost by the State Board of Health or other agencies; laboratory assistance other than that furnished without cost by the State Laboratory; roentgen or radium diagnosis and treatment; hospitalization; appliances; nursing; and dentistry. Particular services determined to be within the above exceptions and desired by party of the second part shall require separate agreements with additional compensation.

5. Payment in advance for a particular direct relief client, or family, and for a month in which attention is requested or necessary for that client, or family, shall be a condition precedent to any obligation on the part of party of the second part or its participating members.

6. Party of the second part shall be privileged to decline acceptance within this agreement of any direct relief clients, or families, whom it does not desire to attend. Party of the second part may also discontinue attention to particular direct relief clients or families, who have been previously approved by extending five days notice of such intention to party of the first part and by refusing acceptance of additional payment on their behalf or tendering refund on their behalf for any unused portion of a month. Party of the first part may likewise at its option refuse to include particular direct relief clients, or families, within this agreement, or it may withdraw particular clients, or families, by extending five days notice of such intention to party of the second part's secretary and by refusing additional payments on their behalf or requesting refund on their behalf for any unused portion of a month.

7. Party of the first part, on the first of each month and subsequently as necessary, shall furnish lists to party of the second part's participating members which shall show the names of all direct relief clients, or families, who are entitled to receive attention during that month. Party of the second part shall furnish a list and subsequent corrections to party of the first part showing the names of its members who have elected to participate in this agreement.

8. Willingness of a majority of party of the second part's individual members to accept a substantial number of patients under this agreement shall constitute compliance by party of the second part with the extent of service contemplated.

9. Although party of the second part shall cooperate in attempting to provide adequate attention for all direct relief clients within the provisions of this agreement, and in attempting to make available a free choice of its members, it reserves the following rights for any or all of its individual members: To accept, refuse, or discontinue attention to particular direct relief clients, or families, included herein, in the same manner as in their usual practice; to require examination and treatment of ambulatory patients at designated places and hours; to have reasonable periods of time for appearance at necessary home calls; and to pursue other restrictions reasonably in accord with the conduct of their other practice.

10. It is understood that only bona fide direct relief clients may be included for attention under this agreement, and that no client, or family, except as may occur in good faith, shall be temporarily included for benefit

of a particular intended service.

11. Party of the second part, through its secretary, shall be entitled to actual notice of any or all instances wherein alleged negligent service, alleged neglected service, or other alleged breach of this agreement are claimed by party of the first part or by particular direct relief clients. Such actual notice shall be given by party of the first part, or by complainant direct relief clients, within a reasonable time after a difficulty is perceived, and shall be recognized as a condition precedent to any rights extended hereby.

12. Party of the second part will cooperate in maintaining on a minimum basis of cost commensurate with reasonable and necessary care all hospital services and other additional and exceptional expense which are supplied at the expense of party of the first part.

13. Party of the first part will cooperate with party of the second part in controlling malingering and other unnecessary demands for attention.

14. Party of the second part believes that functions of the County Health Officer can be furthered generally and for the good of services to be extended by this agreement with assistance and cooperation from party of the second part. To make this possible party of the second part shall be privileged to nominate from its members at any time a vacancy may occur a candidate for the office of County Health Officer. Such nomination shall then be presented for the consideration of party of the first part, and if the nominee is thereby elected, he shall be compensated by party of the first part, and shall proceed with the affairs of that office with all assistance possible from party of the second part. In the event such nominee is not acceptable to party of the first part, then additional nominations shall be made in an effort to find a member mutually agreeable. However, it is understood that this provision shall in no way restrict a final choice by party of the first part.

15. This agreement shall be known as The Kansas Medical Society Plan. A certified copy shall be kept on file at the office of the County Poor Commissioner, and made available by party of the first part for inspection at any time by direct relief clients.

16. Either party shall be privileged to terminate this agreement by extending thirty days notice of such intention by registered mail to the proper agent of the other party. Party of the first part's agent for such notice shall be the County Poor Commissioner, and party of the second part's agent for notice shall be its secretary. Otherwise this agreement shall be in full force and effect for the term of one year on and after....., 1935.

Witness our hands and seal this.....day of....., 1935.

Signed:

The Board of County Commissioners
For the County of....., State of Kansas

(Seal)

County Commissioner

(Seal)

County Commissioner

(Seal)

County Commissioner

The.....County Medical Society

(Seal), M.D.

President

(Seal), M.D.

Secretary

NEWS NOTES

SOCIALIZED MEDICINE DEBATES

Packets of socialized medicine material, containing various pamphlets furnished by the American Medical Association and an extensive release prepared by the Medical Economics Committee of the Kansas Medical Society were forwarded by the central office to the following Kansas schools on October 5:

Atchison County Community, Hiawatha High School, Holton High School, Horton High School, Sabetha High School, Topeka High School, Topeka Catholic High School, Bern High School, Valley Falls High School, Kansas City High School, Atchison High School, Garnett High School, Humboldt High School, Lawrence High School, Ottawa High School, Paola High School, Bronson High School, DeSoto High School, Edwardsville High School, Mineral High School, Welda High School, Ashland High School.

Pratt High School, Bluff City High School, Haviland High School, Mullinville High School, Plains High School, Sharon High School, Arkansas City High School, Caldwell High School, ElDorado High School, Newton High School, Wellington High School, Winfield High School, Halstead High School, Leon High School, Mulvane High School, Rose Hill High School, St. John's High School, Winfield, South Haven High School, Valley Center High School, Abilene High School, Chapman High School, Ellsworth High School, Herington High School, Lindsborg High School, McPherson High School Salina High School, Brookville High School, Canton High School, Goessel High School, Lorraine High School, Salina High School, Brookville High School, Windom High School, Hutchinson High School, Lyons High School, St. John High School, Stafford High School, Alden High School, Antrim High School, St. John.

Ellinwood High School, Haven High School, Little River High School, Macksville High School, Pretty Prairie High School, Chanute High School, Cherryvale High School, Coffeyville High School, Fort Scott High School, Fredonia High School, Independence High School, Neodesha High School, Parsons High School, Pittsburg High School, Eureka High School, Madison High School, Osage City High School, Yates Center High School, Admire High School, Americus High School, Dunlop High School, Hamilton High School, Neosho Rapids High School, Olpe High School, Reading High School, Belleville High School, Beloit High School, Clay Center High School, Concordia High School, Junction City High School, Manhattan High School, Marysville High School, Hays High School, Norton High School, Osborne High School, St. Joseph Academy, Hays, Smith Center High School, Wakeeney High School, Alton High School.

Hill City High School, Lebanon High School, Palco High School, Paradise High School, Plainville High School, Woodston High School, Atwood High School, Colby High School, Hoxie High School, St. Francis High School, Grinnell High School, Oakley High School, Dodge City High School, Scott City High School, Beeler High School, Bucklin High School, Deerfield High School, Elkhart High School, Ford High School, Fowler High School, Garfield High School, Lakin High School,

Leoti High School, Minneola High School, Otis High School, Syracuse High School, Spearville High School, Wichita High School, University of Kansas, Lawrence, Kansas State Teachers College, Emporia, Fort Hays Kansas State College, Hays, Kansas State Teachers College, Pittsburg, Kansas State College, Manhattan, University of Wichita, Wichita, Municipal Junior College, Arkansas City, Coffeyville Junior College, ElDorado Junior College, Fort Scott Junior College, Garden City Junior College.

Hutchinson Junior College, Independence Junior College, Iola Junior College, Kansas City Junior College, Parsons Junior College, Baker University, Baldwin, Bethany College, Lindsborg, Bethel College, Newton, College of Emporia, Emporia, Friends University, Wichita, Kansas Wesleyan University, Salina, McPherson College, Ottawa University, St. Benedicts, Atchison, Sterling College, Southwestern College, Winfield, Washburn College, Topeka, Leavenworth High School, Augusta High School, Emporia High School, Garden City High School, Goodland High School, Great Bend High School, Hoisington High School, Iola High School, Kingman High School, Larned High School, Kinsley High School, Liberal High School, Marion High School, Minneapolis High School, Olathe High School, Osawatomie High School, Sterling High School, Ellis High School, Medicine Lodge High School, Oberlin High School, Peabody High School, Russell High School.

Sedan High School, Wamego High School, Washington High School, Council Grove High School, Harper High School, Cimarron High School, Coldwater High School, Dighton High School, Downs High School, Hugoton High School, Jetmore High School, Johnson High School, Meade High School, Phillipsburg High School, Quentin High School, Tribune High School.

Although this list is supposedly complete as to schools contemplating debates on this subject during the current school year, it is desired that none be overlooked. Thus, if your high school's name does not appear, request is made that the principal be interviewed to determine whether or not that school will participate, and if so to advise that identical information will be forwarded upon request without cost.

COUNTY SOCIETIES

The Brown County Medical Society held a joint dinner-meeting with members of the Northeast Kansas Dental Society on August 30 in Hiawatha at the Country Club. Following the dinner, members of the medical society listened to a discussion of the Kansas medical plan for care of the indigent by Dr. F. L. Loveland, Topeka, chairman of the Medical Economics Committee. At the conclusion of Dr. Loveland's talk, the society appointed a committee to study the plan and to make such recommendations as they deemed advisable.

Members of the Butler-Greenwood County Medical Society met for a dinner-meeting on September 13 in ElDorado. Golf in the afternoon was followed by dinner at which time, Dr. F. L. Loveland, Topeka, Chairman; Dr. L. V. Dawson, Ottawa, and Dr. Harry Lutz, Augusta, all members of the Medical Economics Committee, led a discussion of the Kansas Medical Society plan for medical relief.

A meeting of the Crawford County Medical Society was held on October 3 in Pittsburg for discussion of various plans for the coming year's program.

The Edwards County Medical Society held a dinner-meeting in Kinsley on September 12 for discussion of a crippled children's clinic.

Dr. H. L. Chambers, Dr. W. O. Nelson, and Dr. A. A. Auchard, all of Lawrence, were guests at a meeting of the Franklin County Medical Society held in Ottawa on August 28. The Kansas Medical Society plan was discussed.

The regular quarterly meeting of the Golden Belt Medical Society was held in McPherson on October 3. The program began at three o'clock in the afternoon and included a dinner with talks during the afternoon session. The following program was given: "Abdominal Cesarean Section, Indications and Technique," Dr. W. C. Heatson, McPherson; "Scarlet Fever," Dr. C. T. Hinshaw, Wichita; "Mononucleosis" by Dr. George E. Paine, and Mr. Martin Dupray, Hutchinson; "Pleurisy with Effusion," Dr. N. E. Melencamp, Dodge City; "Some Changing Concepts Regarding the Endometrium and Their Significance," Dr. V. S. Counsellor, Rochester, Minnesota.

The Jackson County Medical Society met in Holton on September 11, with Dr. F. L. Loveland, Topeka, the guest speaker, leading a discussion of the Medical Economics Committee plan for care of the indigent.

Members of the Johnson County Medical Society held a dinner-meeting in Olathe on September 9. Dr. H. F. Carlson, Kansas City, Missouri, was the guest speaker of the evening and gave a paper on "Anesthetics" with a moving picture of the first anesthetic. The next meeting will be held in October in Gardner.

Drs. W. O. Quiring, and H. L. Scales, both of Hutchinson, were the guest speakers at a meeting of the Rush-Ness Medical Society on September 10, in the office of Dr. N. W. Robinson.

The Sedgwick County Medical Society held their annual golf tournament at Crestview Country Club in Wichita on September 27. Other sports during the day included, tennis, horseshoes, swimming and bridge. A banquet in the evening, at which Dr. H. E. Marshall, acted as toastmaster, concluded the day's program.

Members of the Southeast County Medical Society held a dinner-meeting at the Country Club in Chanute on September 25. A scientific program was presented to the doctors, and Mrs. M. O. Nyberg, Wichita, president of Woman's Auxiliary, presented various activities to be taken up by the auxiliary, to the ladies present.

The Tri-County Medical Society, composed of Sumner and Cowley, in Kansas, and Kay County of Oklahoma held an afternoon and evening meeting on September 19 in Winfield at the Country Club. Dr. H. H. Bradshaw, Boston, Massachusetts, spoke on "Anesthesia and Surgery as Applied to Collapse Therapy in Tuberculosis" and Dr. C. F. Taylor, Norton, gave a paper on "Aspects of Collapse Therapy in Tuberculosis." Dr. F. L. Loveland, Topeka, spoke on "Medical Economics" following the dinner.

Members of the Wyandotte County Medical Society held four September meetings on September 4, 11, 18 and 25, in Kansas City. At the first meeting "The New State Plan of Medical Service to the Indigent" was discussed, with Dr. O. W. Davidson, Kansas City, opening the discussion. Dr. F. S. Carey, Kansas City, gave a talk on "Tumors of the Mouth and Jaw: Report of Two Cases, (1) Dentigerous Cyst, and (2) Cyst of the Superior Maxillary" at the meeting on September 18. At the fourth meeting "Pulmonary Embolism: Two Cases" was the subject discussed with presentations by Dr. H. W. Kassel, Dr. Lewis W. Angle, and Dr. H. L. Regier.

WPA TRAUMATIC INJURIES

Definite announcement will probably be made by individual bulletins during the latter part of this month and in the November Journal concerning a new project approved by the federal government wherein WPA employees are to be provided with medical attention for traumatic injuries received in the process of work project employment, and their attending physicians are to receive payment from the United States Employees Compensation Commission for services rendered.

Announcement was recently made in Washington that local arrangements of this kind should be made in each state and officials of the Society have conferred with Mr. J. J. Poizner, Kansas WPA Compensation officer, toward developing a satisfactory program for this state. Tentative present arrangements include, complete attention, hospitalization, medicines and other incidental expenses on a basis of free choice of any licensed doctor of medicine. It is thought that the compensation to be offered will be similar to the schedule of fees contained in the Kansas Workmen's Compensation plan.

NEW BOOKS RECEIVED

FOOD AND BEVERAGE ANALYSES by Dr. Milton A. Bridges, director of medicine, department of correction hospitals, New York. Published by Lea & Febiger, Philadelphia, at \$3.50 per copy.

HUMAN PATHOLOGY, Fourth Edition by Dr. Howard T. Karsner, professor of pathology, Western Reserve University, Cleveland, Ohio. Published by J. B. Lippincott Company, Philadelphia at \$10.00 per copy.

INTERNATIONAL CLINICS, Volume III, 45th Series. Edited by Dr. Louis Hamman, visiting physician, Johns Hopkins Hospital, Baltimore, Maryland. Published by the J. B. Lippincott Company, Philadelphia.

LABORATORY METHODS OF THE UNITED STATES ARMY, Edited by Dr. James S. Simmons, Major, Medical Corps, United States Army. Published by Lea & Febiger, Philadelphia, at \$6.50 per copy.

A MARRIAGE MANUAL by Dr. Hannah M. Stone, Medical Director of the Birth Control Clinical Research Bureau and Dr. Abraham Stone, adjunct urologist at the Sydenham Hospital. Published by Simon and Schuster New York, at \$2.50 per copy.

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Topeka, Kansas

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PARASITOLOGY AND CHEMISTRY**

Examination for Rabies	\$ 5.00
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Friedman's test (for pregnancy)	\$ 5.00
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SEND FOR BOOKLET

E. F. DeVILBISS, M.D., Supt.
OFFICE, 1124 PROFESSIONAL BLDG., KANSAS CTY., MO.

TREATMENT OF DIABETES MELLITUS by Dr. Elliott P. Joslin, Clinical professor of medicine, Harvard Medical School. Published by Lea & Febiger, Philadelphia, at \$6.00 per copy.

MORBIDITY REPORT

New communicable disease cases in the state as compared with last month are reported by the Kansas State Board of Health as follows:

Disease	Month ending Aug. 31	Month ending Aug. 3
Whooping cough	145	264
Syphilis	97	123
Tuberculosis	77	155
Typhoid Fever	77	63
Gonorrhea	61	96
Mumps	59	118
Scarlet Fever	56	85
Pneumonia	51	159
Measles	29	169
Malaria	19	17
Diphtheria	15	20
Chickenpox	9	22
Cancer	7	9
Encephalitis	6	1
Undulant fever	5	19
Poliomyelitis	4	2
German Measles	3	11
Meningitis	3	10
Influenza	2	20
Smallpox	2	18
Erysipelas	1	11
Tetanus	1	6
Vincent's Angina	1	5
Pink-eye	0	1

PUBLIC HEALTH

The Twenty-Fourth Annual Meeting of the Kansas Tuberculosis and Health Association was held in Kansas City, on September 23. Guest member speakers on the program included: Dr. Sam H. Snider, Kansas University; Dr. R. I. Canuteson, Kansas University; Dr. N. P. Sherwood, Kansas University; Dr. F. A. Trump, Ottawa; Dr. Clifton Hall, Topeka.

—JKMS—

Do You Know?—That only two diphtheria deaths were reported in August?

That 23 diphtheria deaths have been reported to September 1; two less than in the same months of 1934?

That 1,396,903 deaths were reported in the United States in 1934?

That the diphtheria death rate for the United States in 1934 was 3.3 per 100,000 population?

That the 1934 Kansas diphtheria death rate was two per 100,000 population?

That 302 automobile deaths were reported to September 1, two more than for the nine months of 1934?

That the 1934 total of all motor vehicle deaths is 341, as compared with 323 in 1934?

That 90 counties have made application for the Community Sanitation Project?

That five typhoid fever deaths occurred in August, the same number as in August 1934?

That 20 typhoid fever deaths have been reported this year; seven more than in the eight months of 1934?

That in a series of 450 deaths from heart disease studied in Washington, D. C., hospitals, 61.4 per cent were due to arteriosclerotic-hypertensive disease?

That in 1934, 5,269 cases of smallpox were reported in 1934 in 44 states, the District of Columbia and nine Canadian Provinces?

That in 1934 Sherman county had the low death rate of 2.8 per 1,000 population?

That Hays City in 1934 had a birth rate of 58 per 1,000 population?

That "The reports of the therapeutic value of orally administered 'cold' vaccine are hardly convincing"?

That 33 typhoid "carriers" have been discovered in the state the past 10 years?

That many counties are now having diphtheria immunization programs?

That in order to make further progress in diphtheria control, more communities must undertake immunization programs?

—JKMS—

A special meeting of the American Child Health Association was held on August 13, to discuss a resolution to dissolve the Association. More than 60 per cent of the votes favored the resolution. The meeting further empowered the Executive Committee to take all steps necessary to close the affairs of the corporation, including the discharge of all its obligations and the disbursement of the remainder of its assets.

—JKMS—

The National Safety Council reports for the eight months of the present year, 58,060 accidental deaths, compared with 54,890 for the same months of 1934.

—JKMS—

Dr. H. E. Hasseltine for 26 years a member of the U. S. Public Health Service, became ill on July 25 with psittacosis. For the past three years he has been in charge of the psittacosis laboratory at Pasadena, California, but has not been in contact with parrots in recent months. The probable source of infection is from the handling of instruments used in previous studies and which he was packing for shipment. Dr. Hasseltine also had an attack of the disease in 1930. Before assignment to the psittacosis study, Dr. Hasseltine was in charge of undulant fever investigations and during that time made several trips to Kansas.

—JKMS—

The Lindsburg and Gray Drug Store of Pittsburg has been designated as a sub-station for the distribution of poliomyelitis convalescent serum.

—JKMS—

The New York State Department of Health reports during the year 1934 the discovery of 39 chronic typhoid carriers. There are now 335 known carriers in New York state, exclusive of 352 in New York City.

—JKMS—

According to the American Medical Association in the school year 1934-35 in 87 medical schools in the United States and Canada there was an enrollment of 25,779 students, exclusive of 1,347 students interning as a requirement for a degree.

—JKMS—

Dr. R. H. Miller, Ullysses, has been named as Grant County Health Officer.

Continued on page 434

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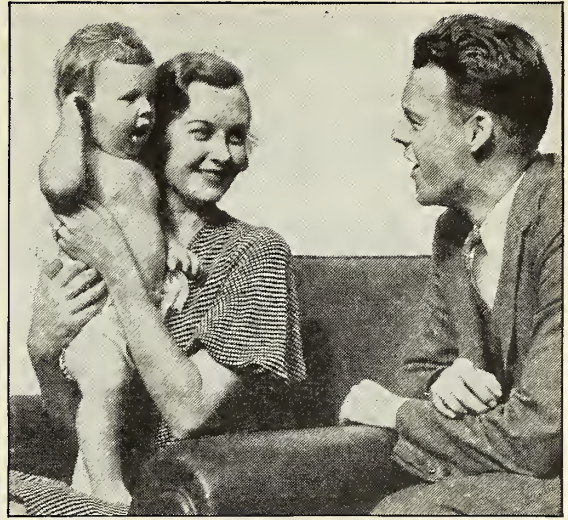
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Though they are average people in average circumstances, they are as sure as anyone reasonably can be that their little one will develop normally—grow tall, straight and strong—have firm, sound teeth and bones.

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Cocomalt is an honest product, honestly advertised—accepted by the Committee on Foods of the American Medical Ass'n. Prepared according to directions, it adds 70% more food energy value to milk—increasing the protein content 50%, carbohydrate content 170%, calcium content 35%, phosphorus content 70%.

Cocomalt is rich in Vitamin D, containing not less than 30 Steenbock (81 U.S.P. revised) units per ounce. It is delicious; children and adults enjoy it. It is high in food-value—low in price. Recommended in all cases requiring extra nourishment without digestive strain.

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Westport 9494

Community Sanitation Project—J. Matt Carr detailed by the U. S. Public Health Service in 1933 to promote community sanitation in Kansas has now been assigned to the State of South Dakota to act as Assistant Director of the Community Sanitation Project in that state. The State Board of Health regrets the loss of Mr. Carr since his services have been invaluable in making the program a success in Kansas.

During the past month the U. S. Public Health Service has approved the appointment of six district supervisors. The following have been named and assigned to the various WPA districts as follows:

1. Roy N. Johnston, Topeka.
2. Nathan W. Brown, Chanute.
3. Blaine Crow, Beloit.
4. William H. Dunn, Wichita.
5. Chester W. Hanson, Clay Center.
6. Arthur C. Robinson, Dodge City.

The supervisors are now in their respective districts and have probably visited the majority of the county health officers by this time. It will be their duty to assist in the promotion of the sanitation project and assist the county supervisors in any way possible. Any problems arising in the counties should be referred to the district supervisor or the State Board of Health.

Charles C. Dills, former assistant engineer for the State Board of Health, but more recently associated with Mr. Carr in expediting the program will continue as Assistant Director.

There is much interest in the Community Sanitation Project as evidenced by the fact that 90 counties to date have submitted the necessary forms to the District and State WPA offices for funds that will permit them to carry on the work. The State WPA office has indicated that 35 county projects have already been submitted to Washington for final approval. Construction work has not as yet started in any of the counties, under the new program.

DEATH NOTICES

John B. Brickell, 71 years of age, died at his home in Emporia, August 31. He received his medical training at the University of Tennessee College of Medicine, at Memphis, and was graduated in 1893. He was a member of the Lyon County Medical Society.

Arthur L. Cludas, 62 years of age, died on August 13 at his home in Topeka. He went to the Keokuk Medical College and graduated in 1895. He was an honorary member of the Shawnee County Medical Society.

Robert S. Dinsmore, 80 years of age, died in Walla Walla, Washington, on August 27. He was a past member of the Kansas Medical Society, and was a practicing physician in Troy, Kansas, for twelve years. He attended the College of Physicians and Surgeons, at Keokuk, Iowa, and graduated from there, later attending the Jefferson Medical College, Philadelphia. He went to Troy in 1878 and practiced there until his retirement, when he moved to Walla Walla. He was a member of the Doniphan County Medical Society while residing in Troy and while there, presented his collection of Indian relics to the University of Kansas. He was born December 4, 1855 at Washington, Iowa, and moved to Highland, Kansas, in 1870. He taught school for a while, and then went to Keokuk for his medical education.

MEMBERS

Dr. P. E. Beauchamp, Kansas City, has established an office at 2700 Parallel Avenue. He recently completed his internship at Bethany Hospital in Kansas City.

Dr. W. F. Bernstorff, Pratt, has been elected president of the American Medical Association of Vienna. He has been abroad the past few months for post-graduate study.

Dr. H. L. Chambers, Lawrence, spoke before the members of the Kiwanis club on September 5. His talk concerned the socialization of medicine.

Dr. F. J. Fricke, Wichita, has moved his offices to Cimarron where he will take over the practice of Dr. G. H. Jackman. Dr. Jackman has gone to Dodge City where he will be associated with Dr. F. L. Dennis.

Dr. G. C. Haughey, St. Paul, has removed his office to West Mineral.

Dr. J. P. Kaster, Topeka, will be honored at a banquet in Topeka, on October 18. At this time fellow members of the Santa Fe's medical and surgical staff will celebrate his fifty years of surgery with the Santa Fe railroad.

Dr. George R. Lee, Yates Center, has returned from Chicago where he has completed his post-graduate studies in the Cook County Graduate School of Medicine.

Dr. Russell Nevitt, Kincaid, has moved his offices to Garnett.

Dr. Alfred O'Donnell, Ellsworth, has recently been appointed as a member of the State Board of Health.

Dr. Lyle Powell, Lawrence, is leaving the first of the year for India to participate in an eye, ear, nose, and throat consultation in one of the clinic centers of that country. The invitation was received through a representative of the British Medical Association.

Dr. W. T. Rich, Neodesha, talked before the members of the Rotary club about surgery on September 14.

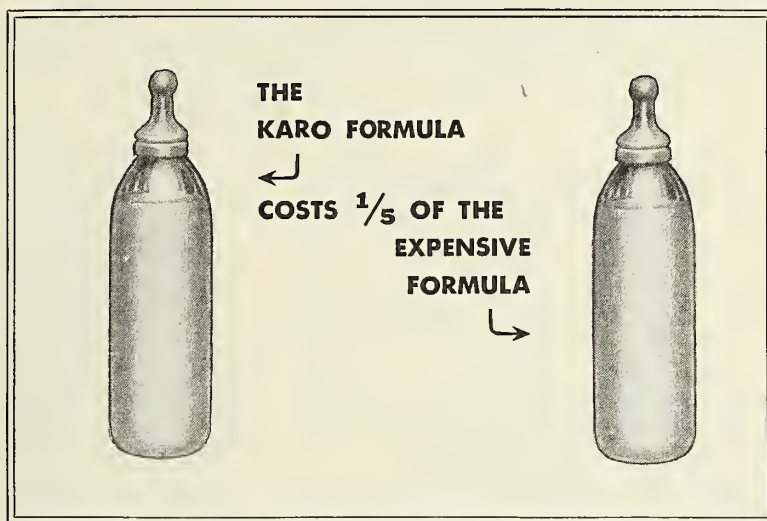
Dr. LeRoy Shepard, Larned, left on August 24 for an extended trip through Europe. While there he will take a ten-months post graduate course in abdominal surgery at the University of Vienna, in Vienna, Austria.

Dr. W. H. Young, Fredonia, has been elected president of the Wilson County Medical Society for the coming year.

ANNOUNCEMENTS

The Sixth Annual Fall Clinical Conference of the Oklahoma City Clinical Society will be held in Oklahoma City, from November 4 to 7. The program for the meeting will include: General assemblies, round-table luncheons, post-graduate courses, evening symposia, and commercial and scientific exhibits. Guest speakers who will appear on the program are: Dr. Fred Lyman Adair, Chicago; Dr. Harry L. Baum, Denver; Dr. Barney Brooks, Nashville; Dr. James T. Cas, Chicago; Dr. John R. Caulk, St. Louis; Dr. Max Cutler, Chicago;

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—JKMS—

The 29th Annual Meeting of the Southern Medical Association, the second largest medical organization in the United States, will be held in St. Louis November 19-22.

The unusual clinical facilities of the two medical schools and the numerous hospitals, combined with the high standing of the medical profession, and the excellent hotel accommodations make St. Louis an ideal city for this medical gathering.

Addresses and papers will be presented by distinguished clinicians, not only from the South, but from all over the United States as well as from several foreign countries.

The Southern Med. Assn. extends a very cordial invitation to all physicians in good standing in their State and Provincial medical societies to attend this meeting.

—JKMS—

Dr. G. Wilse Robinson, medical director of the Robinson Clinic, announces that the Robinson Clinic has purchased the former Christian Church Hospital and Veterans Hospital building, in Kansas City, Missouri, and will be remodeled to operate as a hospital for the care and treatment of nervous and mental illnesses. This new establishment will be called the Neurological Hospital. Although this new hospital will be operated by the Robinson Clinic, there will be an open staff with all doctors who are members of the American Medical Association invited to take their patients to the hospital and retain them in charge in an environment particularly adapted to the care of nervous disorders. The building is expected to be ready for occupancy about October 10.

—JKMS—

The American Medical Association announces dramatized radio programs for medicine and health to be inaugurated over the Blue network of the National Broadcasting Company, beginning October 1. These programs are to show "Medical Emergencies and How They Are Met." The hour begins at 5:00 P. M. Eastern Standard Time (4:00 P. M. Central Standard Time, 3:00 P. M. Mountain Time), and introduces these programs for the information and entertainment of the American people. They are for the purpose of stimulating interest in the health programs being carried on throughout the country. The program will be titled "Your Health" and will open with the toast "Ladies and Gentlemen, Your Health!" Dates for the October programs will be October 1, 8, 15, 22, and 29. Dr. Morris Fishbein and Dr. W. W. Bauer will be the two speakers.

EXCHANGES

Observations on my European trip.—As to the present state of the field of medicine in these countries, Italy, Hungary, Austria, Germany and England, it

was my feeling that it was rather seriously affected by the political and financial unrest, may I call it, which I found evident, although in varying degrees, in practically all of the places I visited. The causes of this unrest need not be accounted for here, but the results of this unrest, as it has affected the care of the sick, the field of research, and the mental and financial status of the average doctor, were of intense interest to me.

You are all to some extent familiar with the continually growing health insurance plan which is compulsory in most continental countries. Where it exists, it has become like a huge octopus, involving in its tentacles all professions, businesses, laboring trades, and government departments, each of which seems to have its own headquarters for insurance. For instance, in most places the Waiters' Insurance Company was very strong, and a waiter needing medical attention was well taken care of. He is required to contribute a percentage of his salary to secure this benefit.

Many doctors are employed by the various insurance companies, and at ridiculously low salaries, but most of them will accept a low but sure salary because the private patient is comparatively rare, except to the older and well-known doctor. The private patient in most cases is one who has been advised by his insurance doctor to follow a certain line of treatment and goes to a private doctor for confirmation and perhaps for treatment.

In Budapest I visited one of the buildings which house a large insurance company. It was crowded; thousands passed through it each day. There they paid in their weekly money, reported for relief money, were treated for minor conditions, or, if sick, came for diagnosis and advice. Time, perhaps, will smooth out many of the rough spots in health insurance as practiced abroad. It appears to offer much and to be sound theoretically, with socialistic tendencies. Actually, at present it is not as practical as it seems, either to the beneficiary or to the doctor on whom the burden rests; real talent has been buried in positions requiring none. Physicians trained in medical or surgical specialties too frequently hold down posts which keep them so busy with trivial duties and red tape that they do not have the time or courage, even if the facilities were available (which they are not), to advance in either the art or the science of medicine.—C. W. Mayo, M.D., *Division of Surgery, Mayo Clinic.*

—JKMS—

More Nostrums in Retrospect.—The chief work of the Bureau of Investigation lies in answering the thousands of letters that are received every year from physicians and laymen asking for information on "patent medicines" and quacks. The following "patent medicines," concerning which longer articles have been published previously, are among those about which the Bureau receives a large number of inquiries: Absorbine, Jr., which, according to the analysis made in the A.M.A. Chemical Laboratory, was a clear, bright green liquid having a strong, penetrating, mint-like odor and seemed to be an acetone extract of some plant, probably wormwood, with the possible addition of some oil of sassafras and oil of menthol. Alka-Seltzer, which was reported to be essentially aspirin together with salicylic acid, citric acid and

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baking soda. Bromo-Seltzer, an average dose of which—a teaspoonful, weighing about 76 grains—was reported to contain postassium bromide, 7 grains, acetanilid, 3 grains, and caffeine, 0.8 grain. The Converse Treatment for Epilepsy was reported to be one of the bromide mixtures and a person taking the stuff in accordance with the directions would get an amount of bromide equal to 58 grains of potassium bromide daily. The Hayes Asthma Treatment, consisting mainly in the administration of iodides, together with a cough remedy, some iron and quinine, with, of course, the inevitable laxative. Hunter's Epilepsy Treatment, according to the analysis made by the Chemical Laboratory of the American Medical Association, was about one-fourth phenobarbital (luminal) and three-fourths milk sugar! Dexo, another alleged remedy for epilepsy, was reported to be a bromide mixture. Lane's Asthma Treatment, each dose of which was reported to contain approximately $2\frac{1}{2}$ grains of calcium iodide, giving a daily dosage equivalent to 11.3 grains of potassium iodide. Tums, reported to be apparently nothing more marvelous than sugar and chalk flavored with peppermint.—J.A.M.A.

—JKMS—

Hence Upon a Time—With this number the twenty-sixth volume of the Detroit Medical News is completed. The moving finger writes; and having writ, moves on. Time is fleeting and the Editor pauses to wonder how the contents of this volume will look one thousand years hence. He confidently assumes, of course, that it has survival value—that a copy will one day fall into the hands of questing archeologists—that it will ever continue as a source of enlightenment.

One can well imagine some Professor of Medical History of the University of Antartica in the year 2935 opening his discourse on "Medicine Since 1935"—"Observe, ladies and gentlemen, this ancient tome, this priceless relic of the distant past. It consists of fifty-two bound numbers of a periodical known as the Detroit Medical News, a forceful chronic of a fatuous period. Scholars consider it the most truthful record of its kind extant. It is worthy of close examination for it gives a vivid picture of the troublous year of 1935.

"This period, you will remember from your studies in Ancient History, has been named the Age of Golden Experimentation. The spirit of this age has always been singularly difficult to grasp, hence, no doubt, the origin of the popular descriptive term, The Nude Eel. I prefer to call it the Age of Captious Collectivism. Its outstanding literary motif (you will find many instances of it in this volume) was inspired by a penchant for cryptic alphabetizations; for example, NRA; FERA, CCC; HOLC; TVA; vitamins a, b, c, d, e; prolan a, b; rho1, rho2, and many others. Linguists are still pondering their significance. Most authorities are inclined to view them as primitive attempts at exorcism, or, as these ancients put it, for 'raising the devil.'

"Here you will find in a piece of writing entitled, 'All Work and No Pay,' a curious account of a situation where physicians plead for remuneration for healing the indigent sick, while, curiously enough, farmers are paid handsomely for not raising corn and hogs. Pray do not titter in derision! We are indeed fortunate to live in more enlightened times. Many curious facts are also presented concerning a portion of the American Continent then known as Michigan. These facts are valuable, though they do not go far toward solving the mystery

that baffles our anthropologists. Who were these Michiganders? What made them such a virile, progressive race? What intellectual capacity enabled them to overcome before their contemporaries the effects of the Great Depression? These are problems to which any student could well devote the labors of a lifetime. Recorded also we find a number of amusing discussions of plans for sharing the earnings of the earners with others having a capacity only for spending; of plans to provide food, shelter, clothing, and health for the people at the expense of taxation levied on their unborn progeny. These are important topics which led, as you remember, to the War of Repudiation . . . At our next lecture we will discuss the Rude Awakening, the period which initiated our own era. It began in the year 19.—"

At this point the Editor ceases his musings and turns hopefully to the next volume.—Detroit Medical News.

—JKMS—

"Doctor" — There has been much editorial comment of late relative to the use of the word "Doctor" as a part of the trade name for so-called orthopedic shoes.

Dr. Norman D. Mattison, New York, has compiled a list of shoes as placed on the market in 1932 in which he shows that one hundred eighty-nine trade names, featuring particular lasts of shoes, used the name of "Doctor" in connection with the name of the shoe. Inasmuch as every foot deformity differs from every other one "it should be apparent that no shoe constructed according to a standardized type could be adequate for any deformed or weakened foot." (From the Journal of the A. M. A.) It is preposterous to think that a shoe salesman could reach up and take a pair of "Dr. So-and-So's" shoes from the shelf and fit the buyer who needs some special last. There is no question but what fraud is being perpetrated by a deception which is being worked by shoe dealers in advertising certain "Doctor" brands of shoes.

The term "Doctor," as applied to chiropody, can be used only when the explanation is given of the field in which the doctorate has been granted. This applies not only to chiropody but to optometry, pharmacy, chiropractics, *et cetera*. When the term "Doctor" alone is used it implies a doctorate in medicine, and therefore the person is a full-fledged physician and any careless handling of the designation constitutes, in our opinion, fraud.

The tendency of such practice is intended only to cheapen the word "Doctor" and the profession is already plagued to distraction by the platoons of charlatans and mountebanks who pose as healers and miracle workers, using this designation.

Not only is the laity being "bunkoed" by these various "Doctor" shoes but it seems probable that some of the physicians, who know little or nothing about foot weaknesses, and deformities, are sending their foot cases to those shoe men to buy a pair of "Doctor So-and-So's" shoes. The foot ailment requiring a particular shoe is worthy of the attention of a competent orthopedist and the physician will do well to advise his clientele as to the "bunk" contained in advertising of various shoes carrying the designation of "Doctor."—*Journal of Oklahoma State Medical Association*.

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MANY a child is scolded for dullness when he should be treated for undernourishment. In hundreds of homes a "continental" breakfast of a roll and coffee is the rule. If, day after day, a child breaks the night's fast of twelve hours on this scant fare, small wonder that he is listless, nervous, or stupid at school.

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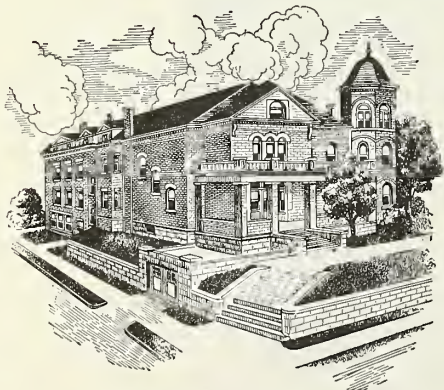
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THE DIFFERENTIAL DIAGNOSIS OF CORONARY ARTERY DISEASE

A. CARLTON ERNSTENE, M.D.
Cleveland, Ohio

During the past fifteen years, there has been a progressive increase in the frequency with which the diagnosis of coronary thrombosis or angina pectoris has been made. This increase has resulted in part from an absolute increase in the incidence of coronary artery disease and in part from widespread diffusion of knowledge concerning its clinical features. In the great majority of cases, the presence of angina pectoris or coronary thrombosis is correctly recognized, but as a result of the popularity of these diagnoses, other diseases with similar symptoms undoubtedly are being included at times under the same classifications. Although such errors are not common, they are of importance because of their bearing upon prognosis and treatment. It is the purpose of this communication to review certain recent experiences in which other conditions were confused with or closely simulated coronary artery disease and to point out the significant features in the history and clinical findings upon which a correct diagnosis was, or might have been, established.

UPPER ABDOMINAL DISEASE

Early writers^{1,2} on coronary thrombosis directed attention to the fact that the disease might closely simulate acute surgical conditions in the upper abdomen, and the possibility of erroneously attributing the symptoms of coronary occlusion to upper abdominal disease has since been emphasized repeatedly. More recently, a few observers have pointed out the possibility that errors may be made in the reverse direction and have reported cases in which symptoms due to gallbladder disease or perforated peptic ulcer suggested coronary

artery disease.^{3,4,5} In the first of the two following case reports, symptoms due to cholelithiasis were attributed originally to coronary occlusion, while in the second, an esophageal hiatus hernia caused symptoms simulating angina pectoris.

CASE 1

Cholelithiasis with Pain Suggesting Coronary Thrombosis: A white, single woman, aged thirty-five years, was referred to the Clinic on April 11, 1935, with a diagnosis of coronary thrombosis. Four days earlier, severe pain had developed suddenly in the interscapular region while the patient was working at her desk. This pain was followed almost immediately by agonizing burning pain in the lower substernal region which radiated upward toward both shoulders and into the epigastrium and both upper abdominal quadrants. The pain was of such severity that the patient was unable to remain quiet. Walking and change in position had no effect. There was moderate dyspnea, and the patient noted that any attempt to take a deep breath increased the discomfort. Nausea developed soon after the onset, and the patient induced vomiting on three occasions but without relief. After four hours, she called her physician, who administered morphine. The pain subsided gradually during the next two hours, but a feeling of soreness was still present over the lower chest and epigastrium four days later. No jaundice had been noted, and the urine had remained of normal color. The past history was irrelevant except for the fact that during the preceding six months there had been three attacks of moderate epigastric pain associated with pain in the interscapular area. On each occasion, the symptoms had developed about one hour after eating and had been relieved in about ten minutes by taking soda and belching.

Physical examination revealed a moderately obese individual with no cyanosis or jaundice.

*Cleveland Clinic, Cleveland, Ohio.

The pupils reacted normally. The heart was not enlarged and its rhythm and rate were normal. A faint systolic murmur was heard over the apex. There was no friction rub, and the heart sounds were of good quality. The blood pressure was 120 mm. systolic and 82 mm. diastolic. The lungs were clear. Slight tenderness was present in the epigastrium and below the costal margin in the right anterior axillary line. There was no peripheral edema. The temperature by mouth was 99.4 degrees F.

The leucocyte count was 10,500 per c.mm. The urine was normal. The icteric index was eight. An electrocardiogram with a precordial lead in addition to the three conventional leads showed no abnormalities. Roentgenograms of the chest revealed no evidence of pathology in the heart, lungs or aorta.

Because of the patient's age, the occurrence of pain in the interscapular region, the normal electrocardiographic findings and the history of earlier, milder attacks not suggestive of coronary disease, it was concluded that the symptoms had not resulted from coronary thrombosis. Cholecystograms were advised. The gallbladder was not visualized but a single large calcium type stone was seen in the gallbladder area (Fig. 1.)

Cholecystectomy was performed on May 1, 1935. The gallbladder contained a single

spherical stone, 1.7 cm. in diameter. The patient has had no recurrence of symptoms.

CASE 2

Esophageal Hiatus Hernia Simulating Angina Pectoris: A white, single woman, aged seventy-two years, had experienced a sensation of fulness and pressure high in the epigastrium at irregular intervals for one year. The discomfort usually developed after the evening meal and was relieved in twenty to thirty minutes by drinking hot water and belching. Shortly after the first appearance of these symptoms, the patient began to experience attacks of numbness and severe aching pain over the top of the left shoulder, extending down the left arm for a variable distance. These symptoms likewise developed in the evening, but at first, the patient did not associate them with the abdominal discomfort. After a few weeks, however, she noted that the shoulder and arm pain always was accompanied by epigastric distress, although at times epigastric distress occurred without other symptoms. As in the case of the epigastric discomfort, drinking hot water and belching gave relief from the shoulder and arm pain. Neither type of pain was precipitated by exertion, although on a few occasions all symptoms had been brought on by bending forward acutely. For three or four years, the patient had experienced moderate dyspnea on walking rapidly, and six months before examination, she had been told her blood pressure was elevated.

Physical examination revealed a moderately obese individual. The left border of cardiac dulness was one cm. beyond the mid-clavicular line in the fifth intercostal space. The aortic second sound was moderately accentuated, and a short systolic murmur was heard over the apex and aortic area. The rate and rhythm were normal. There was moderate, diffuse thickening of the peripheral arteries, and the blood pressure was 160 mm. systolic and 84 mm. diastolic. The percussion note was dull over the base of the left lung up almost to the angle of the scapula, and the breath sounds and voice transmission were suppressed over this area. A moderate number of medium moist râles were heard over the base of both lungs. Abdominal examination was negative. There was no peripheral edema.

Examination of the blood and urine gave normal results. An electrocardiogram revealed nothing abnormal except for moderate left axis deviation.



Fig. 1: Case 1. Large gall stone in non-functioning gallbladder.

Although the type of pain was suggestive of angina pectoris, there were certain features in the symptomatology which argued against the acceptance of this diagnosis. The most important of these were the lack of relationship between the attacks and exertion, the prompt relief experienced after drinking hot water and belching, and the fact that although the abdominal pain had been situated high in the epigastrium, there had at no time been radiation to the substernal region. It therefore was decided to investigate the gastro-intestinal tract. Roentgenologic examination after the administration of a barium meal revealed a large diaphragmatic hernia of the esophageal hiatus type with approximately two-thirds of the stomach lying above the diaphragm (Fig. 2.) The herniation of the stomach was constant with the patient in all positions, and there was no retention of barium at the end of four hours. The esophagus appeared to be of normal length. Undoubtedly the epigastric pain resulted from distention by gas of the portion of the stomach lying above the diaphragm, while the pain over the left shoulder and in the left arm was due to irritation of the central tendon of the diaphragm. The occurrence of the attacks in the evening probably

was accounted for by the fact that the patient's evening meal was the largest of the day.

PULMONARY EMBOLISM

During the past few years attention has been directed to the fact that pulmonary embolism may give rise to a clinical picture similar to that of coronary thrombosis. Sudden occlusion of a considerable part of the pulmonary circulation characteristically causes severe dyspnea associated with retrosternal oppression and the rapid development of a state of shock. There may or may not be pleural pain at the onset. Fever and leucocytosis usually appear within the first 24 hours. There may or may not be blood tinged sputum. McGinn and White⁶ recently emphasized the fact that sudden occlusion of a large pulmonary artery causes prompt dilatation and failure of the chambers of the right side of the heart and termed this cardiac disturbance the acute cor pulmonale. They report 9 cases of acute cor pulmonale and describe the clinical and electrocardiographic features which differentiate the condition from coronary thrombosis. The most important clinical features consist of an increased pulsation palpable in the second left interspace adjacent to the sternum, accentuation of the pulmonary second sound, the frequent occurrence of a gallop rhythm over the pulmonary area, and the occasional presence of a friction rub in the second, third and fourth interspaces adjacent to the sternum. The friction rub is believed to result from irritation of the pericardium by the dilated pulmonary artery and right ventricle.

In the case which follows, the symptoms, although due to pulmonary embolism, were highly suggestive of coronary occlusion, and the significance of certain of the physical signs was not appreciated until the appearance of the report of McGinn and White.⁶

CASE 3

Pulmonary Embolism Simulating Coronary Thrombosis: A white man, aged sixty-five years, who was known to have had chronic nonspecific prostatitis for several years, was admitted to the hospital on April 21, 1933, because of pain in the left lower chest posteriorly. The pain was increased by deep breathing and was accompanied by dyspnea and an unproductive cough. The symptoms had developed suddenly two days earlier.

Physical examination revealed dulness over the base of the left lung together with a faint



Fig. 2: Case 2. Esophageal hiatus hernia with approximately two-thirds of stomach lying above the diaphragm. Lateral view.

pleural friction. The heart was not enlarged; its rhythm was regular and no murmurs were heard. The aortic second sound was louder than the pulmonary second. The temperature by mouth was 100.4 degrees F., the pulse rate, 96 per minute, and the blood pressure, 126 mm. systolic and 70 mm. diastolic. Roentgenologic examination of the chest showed a large area of consolidation in the lower lobe of the left lung. A diagnosis of pulmonary infarction was made. On the second day after admission, the patient began to raise blood-streaked sputum, and on the following day, he complained of pain over the inner aspect of the left thigh, approximately along the course of the great saphenous vein. It was concluded, therefore, that the patient had pelvic thrombophlebitis with extension to the femoral and great saphenous veins on the left. The pelvic thrombophlebitis presumably was the source of the pulmonary embolus.

The patient improved gradually until the thirteenth day after admission. At that time, after three days of normal temperature, he experienced sudden, constricting pain in the retro-sternal region and over the left anterior chest. The pain was accompanied by dyspnea, orthopnea, restlessness and great apprehension. The pulse rate increased to 116 per minute and the blood pressure dropped to 106 mm. systolic and 60 mm. diastolic. The temperature rose to 101 degrees F. within six hours and during the following four days ranged between 100 degrees to 103 degrees F. On the day after the appearance of these symptoms, examination revealed accentuation of the pulmonary second sound and a pericardial friction rub over the third and fourth intercostal spaces adjacent to the sternum. A few fine râles were present over the lung bases. The patient's color was of a dusky ashen hue. The leucocyte count was 14,100 per c.mm. The sputum was streaked with blood.

A diagnosis of extensive pulmonary embolism was made, and undoubtedly, this condition resulted in the development of the acute cor pulmonale of McGinn and White.⁶

The patient's condition was extremely serious for nearly forty-eight hours. He was kept in an oxygen tent, and morphine was administered subcutaneously on several occasions. The friction rub persisted for approximately thirty-six hours. The subsequent clinical course was uneventful, and the patient was discharged from the hospital six weeks later.

DISSECTING ANEURYSM OF THE AORTA

Dissecting aneurysm of the aorta gives rise to a symptom complex which closely resembles that of acute coronary occlusion. The condition is characterized by the sudden onset of severe pain in the anterior chest, often radiating to the back and legs, and usually described by the patient as crushing or tearing in quality. The pain usually lasts for forty-eight hours or longer and frequently is present to a greater or lesser degree until death occurs. At the onset, repeated injections of morphine give only partial and gradual relief. Fever and leucocytosis usually develop within twenty-four hours of the onset.

White, Badger and Castleman⁷ recently have discussed the differential diagnosis of dissecting aortic aneurysm and coronary thrombosis. They direct attention to the fact that in dissecting aneurysm, the severe pain is abrupt in onset in contrast to its more gradual evolution in coronary occlusion. The frequent radiation of the pain to the back and legs also is of diagnostic importance. Particular emphasis is placed, however, upon the maintenance of hypertension throughout the acute illness, the lack of diminution in the quality of the heart sounds and the absence of coronary T-waves in repeated electrocardiograms.

The following case, in which an erroneous diagnosis of coronary thrombosis was made, illustrates how closely dissecting aortic aneurysm may simulate coronary occlusion.

CASE 4

Essential Hypertension; Syphilitic Aortitis with Aneurysm of the Aorta; Dissecting Aneurysm of the Aorta with Rupture into the Left Pleural Cavity: The patient, a white man, aged fifty-eight years, had known of the presence of hypertension for six years and for the same length of time had been receiving conservative treatment for syphilis. On September 14, 1934, three days before admission to the hospital, severe crushing pain had developed suddenly in the lower left chest anteriorly. The pain did not radiate, and in spite of repeated doses of morphine sulphate, it was not entirely gone at the time the patient entered the hospital. There had been no definite dyspnea, but the patient had vomited several times during the first twelve hours of the illness and had been mentally confused from the onset.

At the time of admission to the hospital,

the temperature by mouth was 100.4 degrees F., the pulse rate, 100 per minute, and the blood pressure, 190 mm. systolic and 110 mm. diastolic. There was no cyanosis. The pupils reacted normally. The left border of cardiac dulness was twelve cm. from the midsternum in the sixth intercostal space. No increased dulness could be made out over the base of the heart. The cardiac rhythm was regular, and the sounds were of good quality. The aortic second sound was greater than the pulmonary second. A moderate systolic murmur was present over the apex. There was advanced sclerosis of the peripheral arteries. The lungs were clear. Abdominal examination gave normal findings. The tendon reflexes were brisk and equal.

The leucocyte count was 11,400 per c.mm. The urine contained a heavy trace of albumin, and microscopic examination of the sediment revealed a few white blood cells and an occasional hyaline cast. The Wassermann reaction of the blood was four plus. Electrocardiograms taken on the day of admission and two days later showed slight inversion of the T-wave in Lead I and moderate left axis deviation.

Shortly after the patient entered the hospital, the pain increased greatly in severity for a period of two hours. Gradual relief was obtained with one-fourth grain of morphine sulphate subcutaneously. On the evening of the fourth day after admission, severe pain again developed suddenly in the left lower chest and was accompanied by pallor, profuse perspiration and a rise in pulse rate to 124 per minute. One-fourth grain of morphine sulphate was given subcutaneously without relief, but after a similar dose 20 minutes later, the patient gradually became more comfortable. On the following day, he remained free from pain, but that night, shortly after midnight, he awakened restless and confused, and while attempting to get out of bed, suddenly died.

During the first three days in the hospital, the blood pressure ranged between 190 mm. and 210 mm. systolic and 110 mm. and 136 mm. diastolic. It then dropped rapidly and on the day before death was 146 mm. systolic and 90 mm. diastolic. The leucocyte count reached a maximum of 12,600 on the second day after admission and then decreased to 8,200 on the fourth day after admission.

Necropsy: When the thorax was opened, the left lung was found to be compressed by a

large postmortem clot which weighed 1500 grams. About 300 cc. of unclotted blood also were present. The arch and upper portion of the descending aorta appeared to be greatly dilated. The pericardium was normal. The heart weighed 570 grams, and the walls of both ventricles were increased in thickness. The coronary arteries were patent throughout.

Upon opening the aorta, a large blood clot, 1 to 3 cm. in thickness, was found splitting the media at about the junction of the inner and outer halves (Fig. 3.) The clot was firm but was not adherent. It began above the middle of the aortic arch, 8 cm. above the commissures of the aortic valve, and extended distally for a distance of twenty-two cm. Splitting of the media continued downward a short distance below the diaphragm, but this lower portion did not contain clotted blood.



Fig. 3. Case 4. Dissecting aneurysm of the aorta. The dissecting aneurysm containing the blood clot is shown at A and the aneurysmal dilatation at B. The laceration in the intima cannot be seen but is situated at C.

The intima of the arch and descending aorta showed atheromatous changes together with patchy, longitudinal striations and numerous elevated, indurated areas ranging from a few millimeters to two cm. in diameter. The ascending aorta showed only a few small atheromatous plaques. Over the postero-lateral aspect of the upper portion of the descending aorta there was a localized aneurysmal dilatation measuring 3.5 cm. in its transverse diameter

and nine cm. longitudinally. The intima in this area presented extreme scarring and roughening, and at the upper margin of the area there was an irregular horizontal laceration, two cm. long, which communicated with the dissecting aneurysm. Externally, the left lung was adherent over the upper half of the aneurysmal dilatation, and just below the lower limit of these adhesions there was an irregular, horizontal laceration, 1.5 cm. long, which extended through the adventitia and communicated with the dissecting aneurysm. The aorta measured seven cm. in internal circumference immediately above and below the aneurysmal dilatation, and ten cm. at the midportion of the aneurysm.

SUMMARY

In the past, in discussions of the differential diagnosis of angina pectoris and coronary thrombosis, emphasis has been placed almost entirely upon the fact that these conditions might give rise to symptoms suggestive of some other pathologic state, particularly upper abdominal disease. Only of late have a few reports appeared directing attention to the possibility of erroneously interpreting the symptoms of upper abdominal disease and certain intrathoracic conditions as due to coronary artery disease.

In the present communication, four cases are summarized in which the symptoms closely resembled those of coronary thrombosis or angina pectoris. In the first case the symptoms were due to cholelithiasis. In the second, a large esophageal hiatus hernia caused pain suggestive of angina pectoris. In the third, a clinical picture simulating coronary occlusion resulted from pulmonary embolism with acute cor pulmonale, and in the fourth, a dissecting aneurysm of the aorta was mistakenly diagnosed coronary thrombosis. The cases illustrate the diagnostic significance of negative electrocardiographic findings and also indicate the importance of detailed analysis of the patient's symptoms and physical signs. In the future, diaphragmatic hernia, upper abdominal disease, dissecting aneurysm of the aorta and pulmonary embolism with acute cor pulmonale should be excluded before a diagnosis of angina pectoris or coronary thrombosis is made in patients presenting features not typical of coronary artery disease.

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THE SURGICAL TREATMENT OF OBSTRUCTING LESIONS OF THE BILIARY TRACT*

WALTMAN WALTERS, M.D.†

Rochester, Minnesota

Obstructions of the biliary tract are of two types: Those attributable to lesions within the liver and those attributable to lesions obstructing the extrahepatic biliary passages. All physicians are familiar with cases of catarrhal jaundice and no doubt all have encountered some cases of acute yellow atrophy of the liver. Probably the most common of the intrahepatic obstructions of the biliary tract are those attributable to hepatic cirrhosis. The most common causes of extrahepatic biliary obstruction are gallstones in the common or hepatic bile ducts; strictures of the ducts, usually secondary to operative injuries to the ducts, and tumors of the head of the pancreas, usually carcinomas, obstructing the pancreatic portion of the common bile duct.

Whereas, in cases of intrahepatic obstruction, the onset of painless jaundice is the characteristic feature, in obstructing lesions of the common and hepatic bile ducts intermittent pain is a prominent and characteristic feature. In this respect, I think it is worth while to direct attention to the fact that pain associated with obstructive jaundice is dependent on the degree of obstruction, and the rapidity with which it takes place, whether it is attributable to stone, or stricture, or to tumor of the pancreas. Hence it should be emphasized that gallstones may obstruct the common or hepatic ducts without producing pain, and, by the same token, pancreatic obstruction of the common bile duct may be accompanied, occasionally, by biliary colic.

The life of each patient who has biliary

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†Division of Surgery, The Mayo Clinic.

obstruction, other things being equal, is dependent on the function of the liver subsequent to operation. The problems which occur in treatment of obstruction of the biliary tract are concerned with hepatic function and infection of the gallbladder. Successful results following surgical procedures in such cases are dependent on accurate recognition of factors producing obstructions, their complete removal, and the ability of the liver to resume its normal activities.

THE VALUE OF THE CLINICAL HISTORY AND EXAMINATION

It is almost a surgical axiom that the appearance of the patient and his feeling of well-being or of illness serve admirably as indices of his general condition. In the history of the case, the character and duration of the jaundice, whether its appearance was preceded or accompanied by colic, and whether chills and fever had been associated with it, are extremely important evidence in favor of one or another type of obstructing lesion. The presence of a palpable gallbladder, if a patient has had painless, afebrile jaundice, usually means that the biliary obstruction has been caused by a lesion in the head of the pancreas, for had it been the result of infection in the gallbladder, or of stone in the common duct, the infection of the walls of the extrahepatic passage, like that of the walls of the intrahepatic passages, would have limited the distensibility of the gallbladder. The presence of subcutaneous hemorrhages or purpuric spots usually means prolonged coagulation time and a tendency on the part of the patient to bleed abnormally. The nodular liver of metastatic carcinoma frequently will reveal itself to the palpating hand, and the presence of fluid in the abdomen, when associated with painless jaundice and unchanged color of the stools, leads to the conclusion that the obstruction is intrahepatic.

TESTS OF HEPATIC FUNCTION

Rowntree, Snell, Greene, and I, in a study of various tests of hepatic function, both clinically and experimentally, arrived at the conclusion that the degree of hepatic injury in biliary obstruction cannot be measured by any functional test. The results of tests with phenoltetrachlorophthalein or phenoltetrabromophthalein or bromsulphalein are obscured by the presence of jaundice and by biliary obstruction, on which one cannot rely. The determination, however, of the curve of the bile pigments in

the blood serum is of great significance. Whether one chooses to use the method of van den Bergh, or the icteric index of Meulengracht is probably a matter of personal preference. Successive determinations of the amount of bile pigment in the blood serum are of value. Whereas operation is undertaken with increased risk when the concentration of bile pigment in the serum is increased, the reverse is true when it is decreased. In the cases in which the concentration of bile pigment in the blood serum is decreasing, therefore, it is often wiser to let it reach its lowest level before instituting surgical treatment.

This probably is the proper place to direct attention to the fact that all laboratory procedures in the study of cases of obstructive jaundice serve their best purpose in establishing or confirming a clinical diagnosis, in warning of operative or postoperative complications which may be met or avoided by appropriate measures, and in indicating the risk of operation.

In the presence of biliary infection and obstruction, the normal color of the liver, which is violet-brown, will pass through changes, successively in the order of severity, from brown to green. As more disturbance of the hepatic parenchymal cells occurs, the lobules appear to stand out macroscopically as punctate spots. I have always been fearful of the outcome following operations on patients whose livers had a Paris green color, especially when the lobules were well defined. The consistency of the liver will vary from, on one hand, an increased softness and congestion, with rounding of the hepatic margin, to, on the other hand, an increase in consistency to the extent that it may occasionally be described as being "block-like" in character. It would appear that an accurate description of the liver, with these matters in mind, should be a part of the description of every operative procedure on the biliary passages.

Bile of normal golden color is practically never found when stones occupy the common or hepatic ducts. Bile of various colors is seen, such as greens, browns and whites, but the color is attributable to the concentration of bile pigment, to the cholesterol in the bile, and to the degree of infection present. The significance of so-called "white bile", really a misnomer for colorless, water-like bile, has been described by Judd, Rous, McMasters and others. Recently, in two of my cases, bile draining from

the intrahepatic ducts was truly white, resembling cream. The amount of bile excreted through a tube placed in the common bile duct usually varies from 300 to 600 c.c. each twenty-four hours. Concern must be felt should the quantity exceed that amount, for depletion of body fluids and tissue chlorides is then likely to occur, and dehydration toxemia is likely to appear unless adequate provision is made to overcome the loss by administration of physiologic solution of sodium chloride.

PROPITIOUS TIME FOR OPERATION

In determining the propitious time for operation, an attempt should be made, in the preoperative examination, to determine the situation of the lesion, for, if the history is one of intermittent obstruction in which pain has played an important part, there is the possibility that the jaundice will decrease, making the patient a better operative risk.

The patient whose blood requires longer than nine minutes to coagulate constitutes an increased operative risk; not only is the risk attributable to the tendency to bleed, but also to the probably more than usual injury to the hepatic cells. I have been of the opinion for some time that the relation of hepatic injury to an abnormally elevated coagulation time was a significant feature in jaundice. In most instances, intravenous injection of such a hemostatic substance as calcium chloride or glucose, or transfusion of blood suffices to lower a prolonged coagulation time to within normal limits, even though, in some cases, such reduction is sustained for a period of only a few hours. Should this be the case, one should govern the interval between the transfusion and the operation accordingly.

If a patient who is in none too good general condition gives a history of painless jaundice and the coagulation time is abnormally prolonged, the surgeon is more hesitant about carrying out an operative procedure than if, judging from the history, he would be led to believe that the obstruction was the result of stone. In such cases a period of delay, even though it necessitates allowing the patient to return home, will often suffice to clarify the diagnosis and to allow exact indications for exploration to appear.

Renal function of jaundiced patients always should be determined, for not infrequently it is abnormally decreased. Preoperative study of the blood urea of a patient who was recently

operated on revealed accumulation of 150 mg. in each 100 c.c. The value for urea decreased rapidly, with improvement in renal function, under procedures designed to stimulate elimination, such as intravenous injection of hypertonic solution of glucose, drastic catharsis, and application of hot packs, to the extent that successful cholecystectomy, with removal of stones, and choledochostomy were carried out, in spite of the fact that the patient was seventy-five years of age.

It is worth while dwelling on the influence of age as a factor in operative mortality. On other occasions, I have emphasized the fact that it is the patient's general condition and not his age which is one of the determining factors in operative mortality, and I have substantiated this argument by presentation of several patients between the ages of sixty-nine and eighty years, on whom I had successfully performed extensive gastric resection for carcinoma. A similar ability of elderly patients to withstand operations on the gallbladder and common bile duct, even when accompanied by jaundice, is apparent. Certainly when male patients aged from seventy-five to eighty-five years, in satisfactory condition, are able to withstand prostatic surgery, it would seem that there would be no reason why an intra-abdominal operation should be looked on with any greater hesitation.

The presence of purpuric spots on the skin of jaundiced patients has been regarded by some as a danger signal, which should not be passed without pause. Although I am not able at present to give the exact statistics, I am rather of the opinion that the value of these spots, as indicators of greatly increased operative risk, has been overemphasized. They often have been noted on the skin of jaundiced patients whose coagulation time has been within normal limits, and whose postoperative course has been uneventful. I do not recall a single patient who has had such purpuric spots, who has been denied operation, unless, for other reasons, operation was obviously unwise at the time it was considered.

Condition of the duodenum: The possibility of a large, perforating ulcer on the posterior wall of the duodenum, penetrating the pancreas and producing obstruction of the common bile duct by extension of the inflammation to surrounding structures should be remembered as a possible cause of biliary obstruction. Such a lesion is likely to be over-

looked, because of its low position in the duodenum and the difficulty of its visualization in roentgenologic examination. This is particularly true if the patient has been operated on previously for disease of the gallbladder. A history of intermittent pain in the right upper quadrant of the abdomen, and the finding of a normal appearing common bile duct immediately should call attention to the possibility of such a duodenal lesion.

Tumors of the ampulla of Vater: Such tumors, although they occur relatively infrequently, produce in general a painless type of jaundice, or, if the lesion becomes ulcerating, may be the source of severe intestinal hemorrhage. Since hemorrhage is a relatively rare condition, it is likely to be overlooked. In a recent case in which I successfully resected the ampulla and the posterior wall of the duodenum, with simultaneous anastomosis of the common bile duct and the duodenum, the carcinomatous lesion was small and of low grade of malignancy (adenocarcinoma, grade 2). The small size of these lesions, their low grade of malignancy, their tendency to produce biliary obstruction with jaundice early and metastasis late, make early diagnosis and localization of the lesion important, and its surgical removal valuable.

THE NECESSITY OF COMPLETE RELIEF OF BILIARY OBSTRUCTION

If the patient is to recover from an operation for obstructive jaundice, the obstruction must be completely removed. If a stone in the common or hepatic duct has been the cause of obstructive jaundice, it should be removed. If several stones are present, all should be removed. If stricture of the duct is present, one of several operations must be performed. Accurate anastomosis may be made between the ends of the duct after the stricture has been excised, or between the upper end of the duct, above the stricture, and the duodenum. If the stricture is too extensive to permit of such anastomosis, then an external biliary fistula must be established, later to be coned out and transplanted into the stomach or duodenum. If the obstruction is the result of a tumor in the head of the pancreas, anastomosis of the distended gallbladder and the stomach or duodenum should be made, and the stoma should be sufficiently large to prevent obstruction should edema and swelling occur at the site of the union. Failure of recovery in most

instances, following operations on the biliary passages, has been proved at postmortem examination to have been the result of failure adequately to relieve the obstruction.

INDICATIONS OF SATISFACTORY POST-OPERATIVE PROGRESS

The most certain indication of satisfactory progress subsequent to operation is the general appearance of the patient, his feeling of well-being, a normal output of bile and of urine of normal color, and a temperature and pulse rate within normal limits. From 150 to 400 c.c. of bile of normal color, excreted in each period of twenty-four hours, is satisfactory evidence that hepatic function is normal. Should blood appear in the bile, one must be alert to prevent it from clotting in the tube or in the duct, producing secondary obstruction. If, in association with bleeding from the wound, there is blood in the bile, the situation should be regarded as of considerable seriousness, and transfusion of blood should be given immediately, and again as often as necessary. Should the bleeding continue, the surgeon should unhesitatingly open the incision, and should carry out exploration of the operative field to determine the site of the bleeding, if possible, and control it. In a case recently encountered following removal of stones from the common bile duct and the gallbladder, secondary hemorrhage occurred, necessitating reopening of the incision on two occasions. On the former occasion, the operation was done in the patient's room, and on the latter, in the operating room; the second time, it seemed likely that the patient might die while the exploration was being carried out. The point of origin of the bleeding was identified, and the bleeding was controlled; the blood clots which had accumulated above the liver, depressing and twisting it, interfering thereby with the circulation in the inferior vena cava, were evacuated and the patient recovered. Similar depression of the liver occurred four years ago in a case in which operation had been performed for stricture of the common bile duct; the depression occurred from leakage of bile. After the incision had been opened in the patient's room on the night of the operation, bile gushed from above the liver. This discharge was followed by a fairly rapid decrease in pulse rate from 160 beats per minute to within normal limits. The respiratory rate decreased from 36 to normal, and the patient made a satisfactory recovery.

Studies of renal function, of the degree of jaundice, and of the coagulability of the blood, should be carried out subsequent to operation. With the decrease in the amount of bile in the blood, there is no question that the obstruction has been adequately relieved. Should the coagulation time be increased, measures directed toward its decrease should be considered. An intake of fluid of 2,500 to 3,000 c.c. daily should be insisted on. A portion of this fluid can be taken satisfactorily by proctoclysis in the first few days of convalescence, when the patient is unable to tolerate any considerable quantity of fluid by mouth. Also, physiologic solution of sodium chloride can be given subcutaneously or intravenously twice daily in a quantity of 1,000 c.c., or a ten per cent solution of glucose in physiologic solution of sodium chloride can be given intravenously twice daily in a quantity of 1,000 c.c. at each administration. If the amount of bile drained is scant, but the jaundice is stationary, use of one of the cholagogues may stimulate the liver sufficiently to cause it to excrete an increased amount of fluid, and finally, should the condition of the patient be such that the surgeon is uncertain as to whether bleeding is occurring or the drainage tube is obstructed, or if the obstruction is inadequately relieved and the patient's chance of recovery seems seriously handicapped, exploration of the operative site should be undertaken with the least possible delay.

Transfusions are of definite value in cases of jaundice, both prior to and following operation, particularly if the coagulation time is elevated above normal and if there is a tendency for bleeding to occur from incisions subsequent to operation. I have, on several occasions, resorted to as many as six transfusions over a period of a few weeks, when the livers of deeply jaundiced patients were found to be badly injured as a result of biliary obstruction.

SUMMARY

A period of preoperative study of jaundiced patients permits determination of whether the lesion is obstructing the extrahepatic bile ducts, or whether the jaundice is the result of intrahepatic causes. In addition, it permits preparation of the patient for operation by administration of solutions of glucose and calcium intravenously, and blood transfusions when necessary. The value of a carefully taken clinical history and physical examination cannot be overemphasized, for, in these things,

one gains an idea as to the type of obstructing lesion present, its duration, the condition of the patient, and his ability to withstand an operative procedure. Certain laboratory tests of hepatic function, including studies of the concentration of bile pigment in the blood stream, afford additional information of value. The appearance of the liver at operation frequently will indicate its ability to function following operation. If a patient is to recover from an operation for obstructive jaundice, complete removal of the obstruction must be accomplished and the liver must function satisfactorily subsequently. Indications of satisfactory progress following operation are the general appearance of the patient, his feeling of well-being, the output and amount of pigment in the bile, the quantity of urine, and the temperature and pulse rate of the patient.

EMBOLISM OF THE EXTREMITIES*

R. A. McILHENNY, M.D.

R. C. McILHENNY, M.D.
Conway Springs, Kansas

K. E. VOLDENG, M.D.
Wellington, Kansas

Embolism involving the large arteries of the extremities is not uncommon, and numerous cases of successful surgical treatment for such accidents have been recorded. The following case which came under our observation, does not offer any new suggestions regarding such conditions, however, it demonstrates a typical case of embolism involving the aortic bifurcation, and rapidly terminating fatally.

CLINICAL HISTORY

The patient, a white American farmwife, sixty-eight years of age, was brought to the hospital by ambulance because of a recent critical illness.

Present Illness: On the preceding day just prior to her evening meal, and while she was moving a large bed, the patient was suddenly seized with pain and weakness across her lower back and throughout both legs which compelled her to sit on the edge of the bed and call her husband who was in the adjoining room. Because of her discomfort and weakness no attempt was made to remove her clothing. The

*The Hatcher Clinic.

pain and paralysis of the lower extremities became progressively worse, and at nine o'clock that evening one of us was called to see her. Her complaint at that time was mainly severe pain across her lower back and both lower extremities, rather localizing, however, in the back and in both knees.

Examination at That Time: Patient was groaning, restless, and apparently in severe pain. She was conscious, rational and oriented. Blood pressure 150/96; pulse 84 per minute; temperature 97.4 degree F. Examination of the lower extremities showed a complete loss of function of both lower extremities and marked diminution of sensation, more marked on the right side. This disturbance of sensation extended up to the groin anteriorly and up over the gluteal region posteriorly. No pulsations could be demonstrated in the arteries of either lower extremity. The pain was so severe that co-operation by the patient for an accurate examination was impossible. She demanded "something to kill her and end her misery." There was considerable belching of gas and she complained of some nausea. Her heart tones were very poor and her heart was in fibrillation. Morphine sulphate gr. $\frac{1}{4}$ was given by hypodermic and ten gr. of acetylsalicylic acid by mouth. There was slight relief of pain for a few hours, then followed a period of increased pain and restlessness. She again became more quiet and slept for three hours. Examination the following morning showed essentially the same situation with the exception of a beginning blue discoloration in the calves and posterior thighs. The lower extremities were definitely cold and no pulsation could be demonstrated in either femoral artery. There was moderate abdominal distension, continued belching, and continued pain especially across her lower back centralizing also in the knees. A second hypodermic containing morphine sulphate gr. $\frac{1}{4}$ was given. The diagnosis was undoubtedly massive embolism of the abdominal aorta in the region of the bifurcation. Hospitalization was advised, and she was immediately brought to the hospital.

PAST HISTORY

The patient first came under our observation seven years previously at which time she suffered a left hemiplegia of moderate severity. At that time her heart was found to be fibrillating and her blood pressure moderately elevated; her urine at that time contained a moderate amount of albumin. She gradually recovered

from this accident under rather strict medical supervision, and was able to eventually resume most of her usual duties, although there always remained slight impairment in the use of her left arm and left leg, and slight facial deformity was also always present. She did not remain on supervised treatment following a return of fair health. Seven months ago, she again consulted one of us, her complaints being shortness of breath and swelling of her feet. Moderate cardiac failure was in evidence and she resumed a regime of digitalis, sedatives, and more adequate rest. Her progress was satisfactory and again she was able to be around the house and in the garden doing many of her farmwife duties.

For the last ten years, the patient had complained quite constantly of "indigestion." This became gradually more annoying and was noted chiefly as a tendency to have gaseous bloating, epigastric distress, and belching following her meals. In recent years she was compelled to eat only the simplest foods in order to avoid this indigestion. Constipation was present for years and she was a habitual user of some form of cathartic pill.

Previous to her cardio-vascular difficulty, seven years ago, she had been an exceptionally strong individual, and had helped repeatedly in the harvest fields. She never had been pregnant. Her menstrual history was entirely normal. Her mother and father had lived to well advanced years in good health. She has two sisters, both living but apparently both having some degree of hypertension. One brother is living and well.

Examination in the Hospital: The patient is semi-stuporous and although oriented, she is unable to cooperate well, and her condition seems very critical. Her breathing is of the grunting type and she is apparently in considerable pain. No cyanosis is present; her color is quite pale. Pupils small and regular, no muscular imbalance or nystagmus can be demonstrated. Teeth very poor. Tongue moist, pale, and inclines to the right when protruded. There is noticeable sagging of the left face. Neck essentially negative. There is moderate obesity, more prominent in the abdomen. The breasts are pendulous, however of the atrophic type. Numerous moist rales are found over both lungs. The heart tones are indistinct and there is a total irregularity of the apical beat. No distinct murmurs can be made out. The pulse beat at the wrist is 80-88.

Both systolic and diastolic blood pressure values are difficult to obtain, however the determination seems to be about 130/60. The abdomen is moderately distended and seems rather tender throughout. No masses or enlargement of the solid organs can be demonstrated. The upper extremities are essentially negative with exception of some muscular impairment of the left arm and accentuated bicep reflexes in this extremity. The lower extremities are completely paralyzed and the skin is dry and cold.

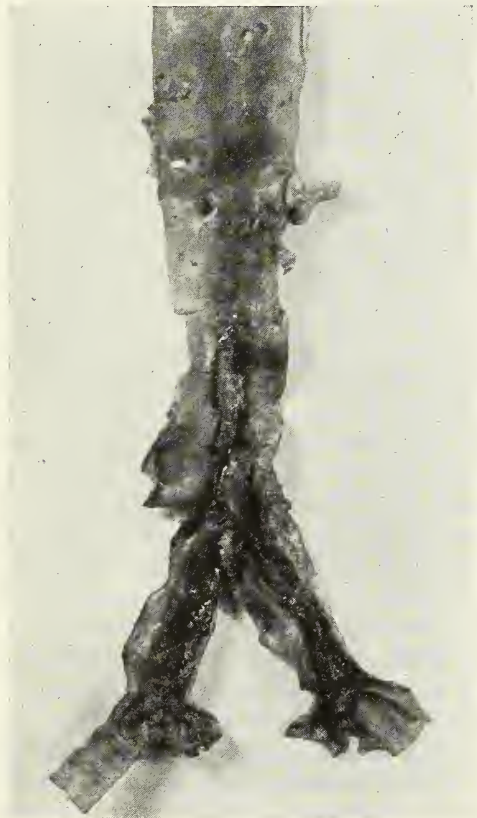


FIGURE 1.

Abdominal aorta, common iliac arteries, and both internal and external iliac arteries, opened to show extent of arterial occlusion by large embolus.

This temperature is general throughout both legs and is sharply demarcated at a level anteriorly just below Poupart's ligament and posteriorly at about the mid-gluteal region. Sensation is entirely absent over this distribution with the exception of slight deep sensation in the left leg. The perineum is free from this disturbance and the sphincter control of the anus is normal. Reflexes in the lower extremities are entirely absent. No pulsation can be felt in either femoral artery. There is a mottled blue-black discoloration in both lower extremities, seen chiefly in the calves and pos-

terior thighs. The skin, otherwise, and toenails have a distinct pallor. Bimanual examination of the pelvis shows nothing of note. The patient had voided previous to her admission to the hospital. Fifty cc. were obtained by catheterization after her admission to the hospital, examination of which demonstrated many pus cells and albumin—grade 4. Examination of the blood showed: hemoglobin 86 per cent (Dare); red blood cells measured per cubic millimeter 4,170,000; white blood cells 28,500 per cubic millimeter; the blood smear showed 94 per cent polymorphonuclear neutrophils, 13 per cent of which were non-segmented.

Course: The patient's condition became progressively worse and death occurred seven hours following her admittance to the hospital. During this time she lapsed into complete coma, and death seemed mainly one of circulatory collapse. The temperature by rectum, on admission was 102.6° F.; this increased to 106° F. prior to her death.

AUTOPSY REPORT

Twelve hours post mortem. Body previously injected. The body is that of a white, elderly, female, rather obese, and measuring about five feet four inches in height. The abdomen is considerably distended, and the tissues rather fixed throughout. The skin over the lower extremities, especially over the posterior thighs and calves is blue-black in color. Injections have been made in both axillary and both femoral arteries for embalming purposes. No edema apparent.

The hair is gray. Excessive hair on chin and upper lip. There is noticeable sagging of left side of face. Teeth very poor. Eyes and ears negative. No glands palpable.

A routine "Y" autopsy incision is used to expose the contents of the abdominal and thoracic cavities. The fat is deep yellow in color, rather dry, and measures about two cms. in thickness over the abdomen. The breasts are somewhat atrophic.

Abdominal cavity: There is about 200 cc. of thin sanguinous fluid in the peritoneal cavity. There are numerous old adhesions in the region of the gall bladder, and involving the duodenum. There are also dense adhesions around the cecum which tend to plaster this part of the bowel down to the posterior parietal wall. The abdominal organs are in normal positions and appear essentially negative with the exception of some generalized gaseous dis-

tention of the loops of small bowel, and a bluish discoloration of the cecum with more distention of this portion of the large bowel than normal.

Thoracic cavity: Both lungs are free, and there is no free fluid. The pericardial cavity seems to be of normal size and position. The diaphragm is normally situated.

Heart: The pericardial sac is normal in size and contains no excess of fluid. The heart is of normal size and weighs 225 gms. The surface does not show evidence of recent infarction. The muscle is soft, and on cut section is of a reddish brown color with numerous small areas of scarring throughout. The wall of the left ventricle measures 1.5 cms. in thickness and the wall of the right measures 5-7 mms. in thickness. The mitral valve is markedly sclerotic and allows very little motion of the leaflets. Over one area of this valve is a roughened, broken area to which is attached a fairly firm organized thrombus (Figure 2.) There appears to have been a portion

competent. There is some atherosclerosis in the aortic arch and around the openings of the coronary arteries. The valve of the pulmonary aorta is essentially normal. The auricular appendage on the right side contains a large organized thrombus which partially fills the right auricle and projects through the tricuspid valve. It is quite firmly attached to one of these tricuspid leaflets. The coronary arteries are markedly sclerotic, however they seem patent and no evidence of severe occlusion can be found.

Lungs: Both lungs present a similar gross appearance. There is considerable congestion and edema throughout the pulmonary tissue, and the cut section exudes a frothy watery material. The pleura is normal. No gross evidence of infarction or pneumonia is found. The large arteries are free of emboli.

Liver: The organ is rather small, weighing about 1500 gms. The surface is pale and smooth. The gall bladder region is completely obliterated by firm adhesions of the omentum and duodenum to the inferior surface of the liver. The gall bladder is found in this old scar mass, and is very small, containing not over two cc. of mucoid material. The cystic duct is not patent. No stones are present in any of the biliary system. The common duct is small and patent throughout. On cut section, the liver tissue has a suggestive "nut-meg" appearance, otherwise seems essentially normal.

Spleen: This organ is small, weighing about 100 gms. The surface appears normal and cut section shows nothing of special note.

Adrenals: Much post-mortem degeneration.

Kidneys: Both organs have the same gross appearance. The capsule strips with moderate difficulty leaving a rough, fine and coarsely granulated surface. Cut surface shows some diminution of cortical tissue from old fine scarring. The pelvis are small and contain milky urine. The larger vessels show moderate sclerosis.

Ureters and bladder: Essentially normal. There is about fifty cc. of milky urine in the bladder.

Reproductive organs: Uterus small and contains a few small leiomyomata. Tubes and ovaries normal. Cervix normal.

Gastro-intestinal tract: Essentially normal with the exception of the cecum, which is mildly distended, thin walled, and has a blue-black appearance. The appendix is free and the lumen entirely obliterated.



FIGURE 2.

Heart opened to demonstrate: (A) Left auricular appendage containing mural thrombus from which part has been torn away. (B) Extensively deformed mitral valve with ulceration of cusp and thrombus formation. A portion of the thrombus had been torn away. (C) Marked sclerosis of one of the main coronary arteries.

of this broken away. In the tip of the left auricular appendage is another smaller area to which has been attached a thrombus. The septum of the auricles and the ventricles is intact. The valve of the systemic aorta is rather sclerotic, however seems to be fairly

Vessels: Moderate sclerosis is present in all of the vessels examined, however this is very marked only in the coronary arteries. Atherosclerosis of the entire aorta is only moderate and the intima is intact throughout. Opening the aorta from the arch caudalward, no obstruction is found until the mid abdominal portion is reached. Here begins a definite thrombus formation which extends down to the bifurcation and on down into the iliac vessels. The right iliac artery is completely occluded by this thrombus, however the left seems not quite completely closed. It would seem impossible that any blood could pass through the right common iliac artery however this obstruction does not seem as complete on the left side. This thrombus tapers off, however, and extends down into both the internal and external iliac arteries on both sides. Some of this thrombus, more especially at the aortic bifurcation, seems quite old and well organized, and parts seem much more recent and less organized. Obstruction of the abdominal aorta above the bifurcation does not seem complete, and no obstruction can be demonstrated in any of the aortic branches above the common iliac arteries.

Permission was not obtained allowing examination of the cranial vault.

GROSS ANATOMICAL DIAGNOSIS

1. Massive embolism of abdominal aorta at bifurcation, with complete obstruction of right common iliac artery and almost complete obstruction of left common iliac artery.

2. Extensive coronary sclerosis with generalized cardiosclerosis.

3. Thrombus formation in right auricular appendage, left auricular appendage, and on mitral valve.

4. Severe mitral valve deformity with marked calcification.

5. Nephrosclerosis.

6. Old chronic cholecystitis.

7. Mild chronic passive congestion of lungs and liver.

8. Generalized arterio-sclerosis.

9. Dental infection.

Microscopical study of the tissue did not add materially to the gross anatomical diagnosis. Sections of the embolus at the bifurcation of the aorta suggested that the original formation was at least two to three weeks old, however parts consisted of fresh thrombus formation.

The sequence of events in this case undoubtedly began with weakening of the myocardium due to lessened coronary circulation. Auricular fibrillation then occurred which favored thrombus formation in both auricles and on the already damaged mitral valve. The fatal embolus undoubtedly became detached from the thrombus in the left heart chambers. The previous cerebral accident which the patient had suffered may have been due to such an embolus, or to an accident primary in a cerebral vessel such as rupture or thrombosis. Unfortunately, our post mortem examination did not include this investigation.

DISCUSSION

The occurrence of such a massive embolism although uncommon, is by no means rare, and numerous such cases have been reported. Recently, de Quervain¹ has reported two successful embolectomies involving the aortic bifurcation. Both of these however arose as post-operative complications, and did not involve subjects of advanced years, or having severe cardio-vascular pathology. Stowe², unsuccessfully attempted surgical removal of aortic emboli in two cases, one after an interval of one week, and the other after an interval of two weeks. Success would undoubtedly have been more likely had the patients been seen by the surgeon at an earlier date.

The diagnosis of embolism in any of the arteries of the extremities can be made with relatively little difficulty, and the definite site of arterial occlusion can be accurately determined. The sudden appearance in the extremity of excruciating pain (in rare cases the pain may be slight), numbness, and paralysis, strongly suggests embolism. Absent pulsations in the major vessels, cold pale skin, and reduced or abolished reflexes, further substantiate the diagnosis of arterial occlusion. If the process is several days old, the pallor is replaced by a blotchy cyanosis; later the limb may present areas of gangrene or mummification. The accident may be encountered in young and old, however most cases range from forty to seventy years of age, and a background of cardio-vascular pathology is as a rule to be found³.

Arterial occlusion by primary thrombosis must be ruled out in the diagnosis of embolism. The former usually presents a prodromal period of weeks or months, during which time symptoms of partial arterial occlusion are present. This is noted as coldness and numbness of the

extremities, intermittent claudication, and possibly some visible circulatory inadequacy. In venous thrombosis, the extremity is cyanotic, warm, and the large arteries can be found to pulsate. Certain neurological conditions might simulate arterial embolism, however here again the presence or absence of pulsations in the larger arteries with the temperature changes in the skin should make the differentiation relatively simple.

The exact location of the embolus may not be easy to determine, however, following a careful examination and with a fair anatomical knowledge, this diagnostic point can be made with considerable certainty. The embolus in almost every case, lodges at a point of bifurcation in the larger arteries such as, at the division of the common femoral, common iliac, brachial, aorta, and popliteal arteries. It is sometimes possible to actually palpate the thrombus in the vessel with the arterial pulsation present proximal to and absent distal to the occlusion. Even though no thrombus can be palpated, the point at which the artery no longer pulsates, is a serviceable guide. The level of ischemia is usually from four to eight inches below the embolus. The line of demarcation of gangrene is always more distal than the primary level of ischemia. X-ray visualization of the arterial segment with such a material as thorotrast⁴ might be used in cases of doubtful localization.

The treatment of embolism in the large arteries of the extremities may be divided into two groups, medical and surgical. Although an early surgical removal of the obstructing embolus is the method of choice by most men, such a procedure might be inadvisable because of the general condition of the patient, the extent and situation of the embolus, and the duration of time since symptoms first appeared. Also, there are certain promising features of a conservative therapy.

The medical treatment is not entirely one of "watchful waiting." The severe pain which is usually present may necessitate the use of heavy doses of morphine. Because of shock which as a rule accompanies these accidents, first attention must be directed toward combating such features. Since a cardio-vascular weakness is the primary etiology present in most cases, treatment must be directed along these lines.

The most promising single therapeutic agent is one recently suggested by Denk⁵ and used later by Allen⁶. This consists in the intra-

venous administration of papaverine hydrochloride $\frac{1}{4}$ gr. (0.016 gm.) repeated every two to three hours for an initial period and then continuing the same dose three times daily. The theoretical basis for the use of this medication, rests upon the belief that the profound ischemia following sudden arterial occlusion is due chiefly to a widespread arterial spasm. Observations and experiments from several sources^{7,8} substantiate such a theory. Papaverine hydrochloride acting as an antispasmodic might then remove in a large part this spasm. The administration of papaverine is simple, and the results are reported to be prompt when successful. There can be little harm in trying this therapy for sudden arterial occlusion, and then in a few hours if no results are apparent, a more radical treatment instituted. Denk, reported complete restoration of circulation in six of his ten cases, and concluded that results through use of papaverine are as good as by surgical removal of the embolus.

In the case reported here, we were unable to obtain the papaverine hydrochloride until two hours after the patient's death. We do wish to call attention of this point to clinics and hospitals hoping that they may not be caught in a similar position. Furthermore the drug has been suggested for trial in cases of occlusion of the coronary, cerebral, mesenteric, and pulmonary arteries.

The intermittent suction and pressure treatment (Pavaex) has been used in chronic arterial occlusion with considerable success, and more recently it has been utilized in cases of acute arterial occlusion. Allen⁶ mentions such a favorable result. If such an apparatus is available, certainly it should be used as early as possible, unless surgical intervention is undertaken at once.

Efforts have been made to "massage" the embolus free from its firm lodging, and either break it up to allow passage of blood, or to force the embolus into a smaller arterial segment. There is little to recommend this procedure, and possible danger may even accompany the practice.

At the present time, the most favorable results in the treatment of arterial embolism of the extremities has been through early arteriotomy and complete removal of the embolus. Danzis⁹ made an excellent survey of the literature on this subject, collecting 129 cases, 119 of which were handled by arteriotomy. In eleven, the embolus involved the aorta, eight of

these were operated upon with two cures. Of the total 129 cases, one hundred were in the upper extremities and twenty-nine in the lower. Conclusions of that study pointed out that fifty-five per cent of the cases operated upon within twelve hours after the onset of symptoms, showed complete restoration of circulation. Although the prognosis in these surgical cases is much better when the intervention is carried out within a few hours after the accident, yet the procedure has proven valuable even several days following the occlusion. As has previously been stated, the majority of these patients have serious cardio-vascular pathology as a background for the embolus, and even though the embolectomy is performed quickly and satisfactorily there is often the continued threat of more such accidents. The future of such patients is precarious even without the embolism occurring. The general condition of the patient and the severe underlying pathology existing may prohibit anything but a conservative regimen even though the patient seeks medical care promptly after the appearance of embolic symptoms. Such factors were present in the case reported here, and we felt that surgery was not to be recommended. The technical details of vascular surgery, and of embolectomy may be found in the literature of the past few years, and no discussion of this will be made here.

Ligation of the veins, or therapeutic venous obstruction has been used in cases of chronic and acute arterial occlusion. Experimental work carried out by Brooks, Johnson, and Kirtley¹⁰ supports such a procedure. This could be done as a part of a conservative treatment, in conjunction with embolectomy, or following failure to re-establish circulation through embolectomy. It is entirely possible that vein ligation would favor circulation sufficiently to save the extremity in certain cases.

Complete excision of the segment of artery involved in the embolism has been done. The basis for this is the lower incidence of gangrene from ligation than from embolism at the same level¹¹. It is done with the idea of protecting the distal arteries from thrombus formation which might exclude possible collateral circulation. This particular procedure has little to recommend it, however, theoretically it may be advisable in rare instances.

Unfortunately the common development of gangrene makes the matter of amputation a necessary part of the treatment in embolism.

This should be delayed until a definite line of demarcation occurs. It is hoped that with earlier and more accurate diagnosis, and proper therapeutic and surgical measures, the need for amputation in these cases may become less.

The anesthetic chosen for use in embolectomy is usually some type of local block. This may be infiltration or nerve trunk block, according to the artery involved. If the lower extremity is the one in question, spinal anesthesia is excellent, in fact this single procedure might be curative as a result of interruption to the sympathetic impulses and resulting anti-spasmodic effect.

CONCLUSIONS

(1) A case of fatal embolism of the aortic bifurcation is reported.

(2) A brief summary is made regarding embolism of the arteries of the extremities, including a resume of procedures applicable in managing such cases.

(3) Early recognition and prompt institution of treatment is urged in embolism of the arteries of the extremities.

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—JKMS—

Mystery is the fundamental curse of medicine; evasion and secrecy are criminal. The best way to help any human being is to help him help himself. The man who is evasive in his dealing with his patient is either dishonest or ignorant, or both.—F. B. Morehead.

MENTAL INJURY

W. M. BREWER, M.D.

Hays, Kansas

By mental wound is meant, "an emotional injury which is suffered and which is only recorded in the archives of the mind." No one is immune to them; they are unavoidable and represent the toll exacted by life. In many instances they leave scars which even time does not efface. In the normal, well-balanced individual they often serve as a proper stimulus in one way or another. On the contrary if the injury is poignant in the beginning, remains unhealed and is aggravated from time to time, the resulting condition becomes of great import to the psychiatrist.

The surgeon is fortunate in that the wounds that he deals with are visible, or can be made so; they can be treated with formidable antiseptics and stimulating ointments, kept sterile by fresh, clean dressings. Healing takes place and perhaps a scar results, causing no pain and is soon forgotten unless it happens to occur in a too conspicuous situation.

Not so with the psychiatrist. The field of operation is never visible. The wound must be located through long tedious examination, analysis and probing of the devious channels of the unhealthy mind. His patients, because of this unfortunate condition, cannot come and say, "Here is my wound, please heal it."

Most mental patients, particularly of the psychoneurotic group, will, after a searching examination, admit certain distressing landmarks which stand out distinctly in their mental life of the past, and from whose unhappy influence they cannot separate themselves. Normally the intellect has continuity. This continuity may extend abnormally from one distressing period to another, thereby coloring the whole mental attitude and affecting the daily reactions so that outward manifestations become present.

The group of symptoms which indicate the condition generally known as psychasthenia was first described by Janet, who separated this state from the heterogeneous medley of morbid mental conditions collectively classed under the title of neurasthenia. At that time the existence of functional nervous disease was just beginning to be realized. Hysteria had been described but this name was practically limited to conditions which involved obvious mental dissociation and the term neurasthenia came to be applied to all conditions which were

apparently functional in origin, and which did not fall within the hysterical group.

Psychasthenia, occurring as it does among men and women of considerable and often of great intellectual power, impairs and inhibits their normal behaviour in a fashion that not infrequently destroys their own happiness and their social utility.

Psychasthenia has been called a "Mal-adjustment neurosis" and this term is descriptive of its effect both on the individual and on society. The symptoms are briefly summed up as follows: On the mental side, we find phobias, obsessions, doubts and apparently trivial provocation, and tendencies to impulsive acts. On the physical side we have the variety of tics which are familiar to every physician.

Janet's conception of psychasthenia was essentially intellectualistic. He ignored the influence of the conative side of mind in the determination of behavior—especially neurotic behavior. When gross dissociations of functions and memories occurred, the resultant condition was termed hysteria; when the loosening of the synthesis involved the higher intellectual functions and resulted in enfeebled conscious control the condition was called psychasthenia.

The psychasthenia patient is usually popularly termed "nervous." He is easily worried even by trivial matter, and he is readily elated or depressed over apparently insignificant happenings. He is constantly thrown into a state of doubt when faced by alternative lines of action even when the final decision is of no importance. Such spells of hesitancy may alternate with periods of concentrated and sometimes misguided activity, which often appear as over-compensations for the preceding state of doubt.

He is subject to multitudinous fears of situations in his environment and the reaction to real dangers which should be characteristic of civilized man is defective. In some cases the fears may amount to definite irrational phobias, such as agoraphobia and claustrophobia. Imperative ideas and obsessions arise in his mind of which a mild example is often seen in the case of the person who insists on touching every third rail with his walking-stick or on placing his feet accurately on the junctions of the paving stones, and extreme instances of which are recognizable in kleptomania, dipsomania and impulses to suicide and homicide. The essential difference between such a patient

PRESIDENT'S PAGE

THE JOURNAL

To the Members of the Kansas Medical Society:

A brief history of the Journal of the Kansas Medical Society is apropos at this time as there are doubtless some members of the state society who do not realize it has been the official organ of the profession in Kansas for over a third of a century.

The Journal was founded in 1901. Previous to this there had been several privately owned medical journals published in different Kansas towns, but which did not meet the need of the profession in the state. It was deemed wise by the Kansas Medical Society that it should have its own publication which would reflect the higher ideals, aspirations and policy of the profession.

At the 35th annual meeting at Chanute it was proposed that the state society begin publishing its own journal. The President referred the matter to the Committee on Publication with power to act. The committee decided to publish the Journal and the first issue came out in June, 1901, with Dr. W. E. McVey of Topeka as recording secretary, and all communications and matter for publication were sent to his office.

At the next Council meeting in January, 1902, the late Dr. James W. May of Kansas City, Kansas, was elected editor, taking over the Journal in May, 1902. He was succeeded in 1914, by Dr. W. E. McVey who served until his death in October, 1931. Dr. O. P. Davis of Topeka was induced to act as editor until the meeting of the Council in January, at which time Dr. Earle G. Brown of Topeka was elected editor, serving until August, 1934, when the Society elected our full time, efficient and energetic secretary and managing-editor, Clarence G. Munns with Dr. W. M. Mills of Topeka as our able editor, assisted by a capable staff.

As the state medical journal is the official publication of the state medical society there are certain definite things that it should do. It should report the activities of the state medical society that the readers may be informed as to the work of the organization and its fellow members. It should report the activities of other related organizations, wherever this may be; new scientific development should be reported, and medical history be preserved for its his-

torical value. Progress and improvement should be stressed continually. To be of maximum good to the profession it must lead, inspire and educate to the greatest possible extent.

Of course the first duty of a medical journal is to publish the transactions of its state society, but it should be well informed as to the methods and work of the various county societies, the committees of the state society and all of the related activities of the organizations and individuals which comprise the scientific and professional work of medicine.

The editorials are important, but not necessarily written by the editor. In fact he should have assistance in this work by contributions from the membership. The news column with its announcements of current activities, health information, deaths, removals to new locations, and other news items about the medical men of the state is always interesting, and promotes solidarity and friendship among the members of the profession. The women's auxiliary is a valuable ally of the state and county society and deserves certain space in a journal.

The advertising pages of a journal are educational in that they are an index of the world's progress in technical equipment, pharmaceuticals, medical literature, etc. Though a medical journal is not published for profit, this source of income is necessary to defray the expense of publication.

But, though advertisements are necessary to the existence of a medical journal, only such as come through the Cooperative Medical Advertising Bureau, and which are previously approved by the Council of Pharmacy and Chemistry of the American Medical Association should be accepted. The Journal of the Kansas Medical Society adheres strictly to this policy.

We have enumerated the various duties and requisites of a state medical journal that are indispensable if it is to adequately serve the profession, and we believe our Kansas Medical Journal meets all these requirements, and more.

The Journal compares most favorably with the journals published by other state societies of similar membership, and in style, class and content is superior to many. It is valuable to any doctor who desires to keep in touch with medical progress.

The members of the society should appreciate the Journal and give it their hearty support. We need the Journal and the Journal needs us.

J. F. Hassig, M.D.

EDITORIAL

CHANGING VIEWS IN THE TREATMENT OF GOITER

Arthur E. Hertzler, M.D.

There is a marked shifting of viewpoint among surgeons as to the indication for operation on goiter and particularly as to the amount that should be removed.

Until recently the chief indication was the relief of toxicity, and the measure of this toxicity was the basal metabolic rate. If the toxicity was relieved the operation was pronounced a success. If the toxicity returned another whack at the goiter was indicated.

Cosmetic considerations sent some persons to the surgeon. The goiter, in their minds, caused no trouble but the bulge in the neck was unsightly. This applied chiefly, of course, to young persons for whom the great adventure was still only a hope. The young matron was much less sensitive to a deformed neck.

It took definite pressure disturbances to send the usually aging matron to the surgeon. This viewpoint is undergoing a rapid change. This change is due to two factors: It has become generally recognized that the supposedly innocent goiter which never has shown toxic symptoms nor ever experienced any pressure annoyances may cause—in fact they are certain to cause—a terminal cardiac failure. This relation to cardiac disease has caused some surgeons to do a complete removal of the thyroid gland for so-called intrinsic cardiac disease.

Whatever the result of operations on the thyroid may be on diseases of the heart, it has produced a general recognition that the thyroid is not as essential to the welfare of the patient as we were wont to believe. That the thyroid is of little use to the adult is quite startling but sufficiently demonstrated beyond a doubt.

We are presented therefore with two new factors: The recognition that a simple goiter

is leading the patient to certain terminal cardiac failure and that the patient will get along very well without any thyroid gland at all comes as a happy combination. The excuse for operation together with a technically possible operation, makes a most pleasing combination for the surgeon.

Like most pleasant things there is a fly in the ointment. In young persons complete "ectomy" produces disturbances in development and nutrition. As a general rule the age of twenty-five years may be accepted as the dividing line. In the very toxic diffuse goiters very radical operations are inexpedient making lobectomies or partial resections advisable.

It is in the colloid goiters that the very radical operations are chiefly indicated. In such cases the least one can do is to remove every lobulation and visibly affected part of the gland. If this rule is followed there remains usually only a bit of thyroid tissue, the size of a Boston-baked-bean at the upper poles.

The amount usually left in operations for toxic goiter is the size of a little finger on either side. This diseased tissue results after a recurrence of toxic symptoms, in many cases not until five or ten years later. This is well understood because the returned patient emphasizes it. The point not sufficiently emphasized is that even though toxicity does not return the remaining part of the gland is sufficient to produce fatal cardiopathies. This is even more important in colloid goiters which have never shown toxicity. In such cases the remaining part of the gland may not emphasize its presence through its size and one must wait ten or twenty years for the appearance of a failing heart, and when this time comes the relationship is likely to be overlooked.

Therefore a goiter in the adult is to the patient a menace, no matter whether it has shown toxicity or not, and tends ultimately to cause death from cardiac failure.

PUBLIC HEALTH

The health of the people depends a great deal upon their understanding of disease and the methods used in its prevention. The importance of the history of medicine in its relation to education is not given much recognition in our common school curriculum. History as it is taught deals with political events and glorifies political and military leaders. The development of medicine, its relation to science throughout history and its importance to public health is scarcely mentioned among the forces that have marked the progress of the race from a condition of savagery to the threshold of a scientific era. This scientific era may not be more than glimpsed, for, if political powers and their conflicting economic aims continue to lead nations into war, science will be diverted into forces for destruction. The creative energy, the vitality necessary for creative effort is destroyed by war. If we are to hold fast to that which science has attained and approach social problems with realistic insight and intelligent thinking instead of through primitive emotional responses, a foundation for such an approach is necessary in education. A healthy minded emotional life can be developed only through knowledge; through self-knowledge and race-knowledge as well.

We, as physicians, should assert our influence toward the teaching of medical history in public schools, with its social implications and especially its bearing upon public health. Scientific knowledge is and always has been surrounded by ignorance and dark areas of prejudice and superstition. The proponents of science must overcome these obstacles if we are to hold to our objective of acquiring and applying facts to social needs. Medical science is of the greatest importance to society and its utility as a social and cultural force depends upon the breadth as well as the depth of public understanding.

CHRISTMAS SEALS

The National Tuberculosis Association, sponsor of the Christmas Seal campaign, points out that the difficulty of combating tuberculosis lies in the fact that it is not similar to those fatal diseases whose names trip so familiarly across our tongues: typhoid, small-pox, diphtheria and pneumonia. Fatal though these diseases are, they all have the common feature of developing suddenly, and within a brief time achieving a crisis that decides the case. Tuberculosis, on the other hand, develops slowly without any distinguishing symptoms. No medicine has yet been discovered that will cure it, and the only known method of cure is the slow convalescence of days spent resting in bed. During its period of active development within the human body the germs of tuberculosis are given off through the nose and mouth. They spread silently, but with deadly accuracy to others, and thus the cycle is begun again.

Christmas Seals offer the opportunity to help others, to protect ourselves, and to spread the message of good will to men by their appearance on our Christmas letters, cards and packages. We heartily endorse the spirit of the statement "It takes Christmas Seals to make it Christmas mail."—*National Tuberculosis Association*.

LEAD THERAPY OF CANCER

THE *New York Times*, under date of August 21, 1935, reports an attempt to revive the long-quiescent use of lead in the treatment of cancer. The paper was read by a group from the Mayo Clinic before the American Chemical Society. It is certainly unfair to say that the excellent facilities for publicity afforded by the presentation of a paper before such a gathering had anything to do with the choice of audience. But it is unfortunate to present material of interest to thousands of sufferers before a group which, by virtue of divergent interests and

training, is incapable of thoroughly criticizing and evaluating it.

Whereas material of primarily chemical nature is properly treated before a group of chemists, a paper which apparently emphasizes chiefly the results of therapy, particularly in such a disease as cancer, seems definitely out of place. In this instance presentation before a group interested and experienced in cancer treatment would be far more valuable.

As far as one can judge from the quotation in the newspaper seven cases of eighty-five, all inoperable, improved with lead treatment alone. The investigators do bring out the fact, established years ago, that unless lead therapy is pushed to the point of toxic symptoms, little in therapeutic results may be expected.

Following Blair Bell's initial announcement, some ten years ago, lead therapy was taken up in various centers and carefully scrutinized. Little value, however, has been derived from the use of this form of treatment in the past. When one considers the dangerous and painful effects of acute lead poisoning, considerable hesitancy is indicated before using such an uncertainly helpful and surely dangerous substance.

It is indeed to be regretted that such widespread publicity has attended a report which encourages the wider use of lead compounds in cancer therapy. If and when details of the procedures of Osterberg, Borgen, and Horton are presented before medical groups or published in periodicals seen by physicians it may be possible to evaluate the importance of their contribution. We all hope they have made a step forward in the struggle against the disease. For the present, at least, the general reluctance to use lead compounds in treating cancer should continue.—*New England Journal of Medicine*.

—JKMS—

Pain is the prayer of a nerve for a healthy blood.—Romberg.

For many patients hope is the best medicine.—Lindsay.

Knowledge makes the physician, not the fame of the school.—Parracelsus.

MEDICAL SCHOOL CLINIC

PERI-ANAL ABSCESS IN AN INFANT*

MAURICE A. WALKER, M.D.

Kansas City, Kansas

A breast-fed male infant, seven weeks old, was brought to me by his mother on May 28, 1934, because she had just noticed a tender red swelling near his anus. He had been constipated for about two weeks previously, passing hard dry chunks of feces once or twice each day to the accompaniment of much straining and crying. On at least one occasion, there had been streaks of blood on the diaper after a bowel movement.

By separating the buttocks, a swollen red mass one cm. in diameter could be seen to the right of the anus. Traction on the perianal skin with the finger-tips made the rectal mucosa visible. Then, pressure on the mass emptied it, with the appearance of creamy yellow pus in an anal crypt on the right. The mother was advised to apply warm moist packs to the anal region, and to administer fruit juices as laxatives.

She returned with the baby on June 8. At that time, the abscess was two cm. in diameter, and could not be emptied by pressure. The skin over its center was necrotic. After spraying the region with ethyl chloride, the abscess was incised; the skin edges were excised with scissors to make a saucer-shaped depression. This area healed completely in four weeks, and the infant had no further trouble. When examined on September 26, 1935, the anal region seemed entirely normal except for a small soft flat scar.

COMMENT

A peri-anal abscess developed in an infant, the pathogenesis apparently being the same as when the condition occurs in an adult: laceration of an anal crypt by the passage of hard feces, followed by infection in the peri-anal tissues, with the formation of an abscess which could be incised through the skin. In this baby, the anal fistula thus formed healed without further surgery, perhaps due to the care taken at the time of incision to lay the infected

*From the Department of Surgery of the University of Kansas School of Medicine.

tissues wide open, thus tending to make them heal from the bottom. According to Holt and McIntosh, however, peri-anal or ischio-rectal abscess is not a very rare condition even in infancy, and most of these cases recover promptly after simple incision and cleanliness, fistula being a rare sequel.

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LABORATORY

Edited by J. L. Lattimore, M.D.

RADIO-SENSITIVITY AND RADIO-RESISTANCE IN TUMOR THERAPY

FERDINAND C. HELWIG, M.D.*

Kansas City, Kansas

The term "radio-sensitivity," when applied to tumors, may mean that they will recede very rapidly or that they may show a gradual decrease in size, which process may require many months for complete disappearance of the growth. Because a tumor is radio-sensitive, it must not be assumed that it is curable by irradiation, nor is a radio-resistant tumor necessarily incurable.

As a general rule, the majority of tumors are sensitive to irradiation in more or less direct ratio to the embryonal character of their cells. Thus, the more nearly a cell approaches the primitive type, the more sensitive it becomes. Like all rules, however, there are many exceptions to this and it should be understood that there are many additional important factors that must be taken into consideration in judging the sensitivity or resistance of a given tumor to irradiation. Because of the fact that x-ray and radium act in a dual manner in producing tumor regression, every biologic process which hinges in any way upon the basic factors responsible for regression must be carefully weighed before an opinion can be rendered on the radio-sensitivity of a given tumor.

Irradiation acts directly upon the tumor cell and also upon the blood supply of the neoplasm. The first action destroys the tumor cell, and the second cuts off the blood supply by the process of gradual endarteritis; both actions thus produce regression of the tumor mass.

There are many things which may cause an ordinary sensitive tumor to become resistant. Thus, such constitutional factors as anemia, cachexia and advancing age increase a tumor's resistance to irradiation. Moreover, local conditions such as infection, fibrosis and previous irradiation may produce an increase in radio-resistance of an otherwise sensitive growth.

The character of the tumor bed is highly important as a factor in determining the reaction of a neoplasm to irradiation. Thus, a normally highly sensitive tumor such as the common rodent ulcer becomes resistant when invading bone or cartilage. Fat tissue likewise forms a resistant bed, and a tumor bed that is very fibrotic and avascular may produce a highly resistant tumor which, under normal circumstances, might be quite radio-sensitive.

The gross anatomical characteristics of a tumor may be of utmost importance in determining its reaction. For example, a papillary squamous cell tumor of the mouth may be moderately radio-sensitive because of its blood supply, while a tumor of almost identical cell type but of the excavating variety will be resistant.

It is impossible to do more than touch upon a few of the common tumors in a discussion of this brief character, but it might be well to mention some of the more frequent neoplasms which are seen in every day practice. Thus, squamous cell carcinomas of the skin, buccal mucosa, tongue and larynx are all resistant to irradiation although early in the disease the majority are curable if sufficient, intensive, external and interstitial radiation is applied. Peculiarly enough, squamous cell malignancies of the hypopharynx, tonsil and nasopharynx, particularly the transitional and lymphoepithelioma groups, are very sensitive. Moreover, even the desmoplastic squamous cell malignancies of the mouth and tongue which are highly resistant, are often sensitive when located in the hypopharynx. Basal cell tumors are all sensitive but their sensitivity decreases with the adenocystic structure of the growth. Salivary gland tumors are all resistant. This is particularly true of the submaxillary group, but every resection of a parotid neoplasm should be

*Department of Pathology, University of Kansas Medical School.

followed by irradiation because of the notorious tendency of this tumor to recur. The more highly differentiated tumors of the esophagus seem to be more sensitive than the undifferentiated groups. Very poor results have been obtained in most of the neoplasms of the stomach, intestine and rectum. The same holds true for tumors of the kidneys. Prostatic malignancies are resistant to irradiation, requiring seven to ten erythema doses of interstitial radium for any results. Bone metastases from prostatic carcinoma are usually resistant, while similar metastases from breast malignancies have been sensitive in most instances. In the latter, particularly, pain may be relieved and even pathologic fractures will frequently heal. Some of the breast malignancies have proved sensitive but the usual garden variety of scirrhous and simplex carcinoma has been highly resistant. On the other hand, many excellent regressions are obtained in the glandular metastases, both from the lip and buccal malignancies, and also in those arising primarily in the breast. If the capsule of the lymph gland has been penetrated by the tumor invasion, or if cystic degeneration of metastatic growths in lymph glands has taken place, these metastatic growths then may become resistant. Hodgkin's disease, lymphosarcoma, myeloma and the leukemias are almost always very sensitive. Melanotic tumors and neurogenic sarcomas, regardless of their embryonal cell character, are almost invariably very resistant. This also holds true for most osteogenic sarcomas, while Ewing tumors and giant cell tumors of bone have been fairly uniformly sensitive. In the latter group, if recurrence has taken place after curettage, or if the cortex of the bone has been perforated, these tumors are sometimes found to be resistant. Fortunately, the most common malignant tumor of the testicle is the embryonal carcinoma with lymphoid stroma; these growths have proved highly sensitive and even massive metastases have been reduced sterile by irradiation therapy. The adenocarcinomas, choriocarcinomas and the adult teratomas, however, which fortunately are less frequent than the previously named group, have not shown the same good results. Although a moderately resistant type of growth in the majority of instances, cancer of the cervix uteri has, with our present method of dosage, shown excellent results from irradiation therapy. Particularly is this true when intracavity radium and external irradiation have been combined. Corpus

malignancy, on the other hand, has proved resistant but the surface growths of this group have shown good results from irradiation because of their close proximity to large doses when intracavity radium is applied.

The foregoing gives a brief conception of the problem of radio-sensitivity of tumors, and it is quite apparent that many factors must be taken into consideration in addition to the study of the microscopic anatomy of any neoplasm before a well qualified opinion may be given regarding its reaction to irradiation.

TUBERCULOSIS ABSTRACTS

TUBERCULOSIS AMONG SCHOOL EMPLOYEES

Some states have laws providing for the physical examination of teachers and the exclusion of those applicants who have tuberculosis. The Attorney General of Minnesota has ruled that "the skin test for teachers is reasonable exercise of the police powers of the school boards if required for the purpose of safeguarding the pupils of public schools."

Previously the author demonstrated that children taught by teachers with open tuberculosis showed a much higher incidence of positive tuberculin reactions than those taught by other teachers. Ickert found that 93.5 per cent of the children taught by tuberculous teachers reacted to tuberculin as compared with about twenty-five per cent reactions in a control group. Frost reported seventy-one per cent reactions among pupils of a tuberculous teacher whereas only 11.4 per cent of children in adjacent districts taught by non-tuberculous teachers were positive to the test.

PREPARING THE WAY

The first step taken in Minneapolis to bring about a survey of school teachers and employees was to arouse the school board to the need of requiring a health certificate of all teachers. At that time, October, 1921, the value of the tuberculin test and the x-ray was not thoroughly appreciated and therefore certificates in some instances seemed almost worthless. More publicity and education was patiently carried on to prevail upon the board

to demand from the teacher more specific evidence of freedom from tuberculosis.

The problem was discussed with the medical society which after careful deliberation, supported the Director of Hygiene of the Minneapolis school board in his recommendation to the board that all teachers and employees who come in contact with school children submit to a Mantoux skin test, the expense of the test to be borne by the board.

Since there was some objection to the tuberculin test based on misunderstanding, the order adopted by the board was modified a few months later to permit the teacher to submit an x-ray film of the chest in lieu of the skin test. Protests of obstructionists continued and therefore it was considered wise to postpone the execution of the order to December 31, 1933. New objections arose but the authorities proceeded with the administration of tuberculin tests and the preparation of x-ray films of the positive reactions. False and absurd rumors which tended to disparage the procedure circulated freely, but tactful execution of the procedure overcame most of the objection and in a short time a high percentage of teachers submitted to the test.

PROCEDURE

A physician and a nurse visited each school building and applied the test to all employees who wished it. Arrangements had been made with the local radiologic society for the taking of x-ray films of the chests of all teachers and others concerned who were authorized by the school board to have such films made. Teachers who declined the skin test, as well as those whose tuberculin tests proved positive, were issued authorization slips for the making of the x-ray films. The films when made were forwarded to the hygiene department for corroboration.

An option on this procedure was offered, permitting teachers to have the tuberculin test applied by their private physicians, a report of the result, certified over the physician's signature, to be sent to the director of hygiene. Further, the school personnel was permitted to submit x-ray films of the chest taken by physicians of their own choice. These options were exercised at the expense of the teacher. All other costs were borne by the school board.

RESULTS

Altogether 2,190 persons were tested with tuberculin and 1,384 elected an option. A

single dose of 0.1 mg. of tuberculin was used. Retesting of negative reactors could not be done because it was necessary to simplify the procedure.

Of those tested forty-nine per cent reacted. The incidence of reactors varied curiously in different schools. In two schools in which there were less than five teachers, all were negative. The lowest number of reactors in the larger schools was ten per cent and the highest was eighty-two per cent. As a group, school nurses showed the highest incidence, ninety-one per cent. Of the 2,466 who were x-rayed fifty-nine per cent showed no evidence of disease.

All films were interpreted by one of the authors who classified them as follows:

No evidence of disease.....	1,453
Scoliosis	2
Possible substernal thyroid.....	2
Change in cardiac outline.....	44
Evidence of increased bronchovascular markings	175
Evidence of fibrinous pleurisy.....	66
Evidence of first infection type and pleurisy..	29
Questionable evidence of first infection type of tuberculosis	85
Evidence of first infection type of tuberculosis	532
Evidence of parenchymal lesions	78

The method employed is regarded by the authors merely as a means of screening out cases who should have a thorough examination for tuberculosis. The seventy-eight persons with parenchymal lesions as well as those with changes in cardiac outline or other significant findings were all advised to consult the physician for further examination and final diagnosis. To keep a check on those with parenchymal lesions periodic roentgenographic examinations were requested at stated intervals, the films to be submitted to the Director of Hygiene of the school board. There was no interference with practitioners of medicine. The school board should not treat disease but it is definitely obligated to make sure that their employees do not disseminate tubercle bacilli in line of duty. Great care must be exercised by the board not to be too drastic in dealing with those who have parenchymal shadows. Every finding should be kept strictly confidential; even the tuberculin test should be applied on a part of the body where it is not visible to other teachers or pupils and the report on the test should be made only to the individual tested.

The costs of the survey are important to consider. All but 102 of the tuberculin tests

were paid for by the school board. Of the 2,476 x-ray films 238 were not paid for by the school board. The total expense to the school board was \$5,525.50.

ADVANTAGES OF SURVEY

In the summary of the article the chief advantages of the survey are stated as follows:

"First, disease may be detected before it has produced significant symptoms and when it can be treated successfully in a short time, thus saving the teacher a long period of inactivity from work. Such cases, by adequate treatment, may be prevented from breaking down so as to be a menace to the children and other teachers. Thus, the environment so far as tuberculosis is concerned becomes much safer from the standpoint both of the teacher and of the child. Second, compulsory examinations often lead to investigation on the part of the teacher so that she becomes informed concerning the contagious nature of tuberculosis. Many such teachers become enthusiastic workers in the tuberculosis control program. This should lead ultimately to the enlistment and the support of great educational associations, which will be a valuable acquisition to the forces against tuberculosis."

Tuberculosis Among Employees of the Minneapolis Schools, F. E. Harrington, M.D., J. A. Myers, M.D., and Ida Levine, M.D., Journal of the American Medical Association, May 25, 1935.

MEDICAL LITERATURE

Edited by Will C. Menninger, M.D.

CHRONIC CYSTIC MASTITIS

This discussion of tumors of the breast, with especial reference to "chronic cystic mastitis" includes a detailed account of the estrus cycle, its relation to "chronic cystic mastitis," and the various opinions and schools of thought regarding this aberration. The author stresses the need for careful differential diagnosis of tumors of the breast resting on the concept of the so-called "chronic cystic mastitis" as an aberration of the cyclic changes in that organ

associated with estrus, or, in other words, as a benign lesion. In the generalized form, diagnosis is safe, but in types limited to certain areas or a single tumor, exploration is necessary because the differential diagnosis from cancer cannot be made with sufficient security.

Harvey, Samuel C.: "Chronic Cystic Mastitis" As a Physiological Aberration and Its Significance in the Diagnosis and Treatment of Tumors of the Breast, *Yale Journal of Biology and Medicine* 7:521-532, July 1935.

CHRONIC THYROIDITIS

This is a discussion of chronic thyroiditis and a report of an operation for a case of Riedel's struma. The differentiation of Riedel's struma from a struma lymphomatosa is discussed as to age of onset, sex, average duration, unilateral involvement, tracheotomy, deaths, and postoperative hyperthyroidism. The differential diagnosis of the two rests between malignant changes, syphilis, and tuberculosis. Unless the preoperative basal metabolic rate is high, it is advisable to save a large part of the gland in order to prevent postoperative hypothyroidism.

Gilchrist, R. K.: Chronic Thyroiditis, *Archives of Surgery* 31:429-436, September 1935.

CHILD'S HEART IN DEFICIENCY DISEASES

Abt discusses the child's heart in beriberi, scurvy, and rickets from his own findings and from a review of the literature. He notes a relationship between the condition of the heart in beriberi and idiopathic hypertrophy and suggests as a tentative hypothesis that idiopathic cardiac hypertrophy may be due to vitamin B deficiency. The infant with severe anemia and cardiac hypertrophy and dilatation, for the purpose of discussion, was assumed to be suffering from vitamin C deficiency or latent scurvy, although the findings were conjectural. In rickets, cardiac enlargement, if present, has escaped the attention of most clinicians. More clinical and pathological data will be necessary to offer a more rational explanation of hypertrophy of the left ventricle.

Abt, Isaac A.: The Child's Heart in Avitaminosis, *American Journal Diseases of Children* 50:455-471, August 1935.

COLITIS

That ulcerative colitis may be the end result or organic consequence of functional disorder

of the colon is the idea expressed by Bodman. He presents case reports of eight women, ranging in age from three to sixty-six years, who developed colitis. The psychologic factors in the cases are rather obvious and all somewhat similar. The attitude taken by many that bowel movements are a matter of moral importance is well illustrated in a number of these cases.

Altho ulcerative colitis is incurable, Bodman believes that this terminal state can be prevented if the functional disorder is recognized in good time and as partly an expression of an emotional state. As the author puts it, "many of these cases begin as an alteration in function of the vegetative nervous system, which selects the colon as the battlefield on which the emotional conflict is fought out." From the frequent occurrence of the dominant mother in cases of this kind, he concludes that "the seeds of 'colitis' are probably sown by the strict mother who trains her small child to habits of cleanliness with too much severity, impressing on the child how inferior it is not to be able to regulate its bowel function better." Many of the cases illustrated the childish attitude the patients took in regard to earning a living. They disliked their work and were glad to escape from it by colitis. Bodman believes that "colitis" is often the somatic expression of the emotional conflict between the reality, "You must grow up," and the phantasy, "I want to retain my childish dependence on my mother."

The beginning of "colitis" is a "psychogenic mucorrhea" determined by an "overdependence on the parental love and shelter" and often aggravated by the death of the father.

Bodman, Frank: *The Psychologic Background of Colitis*, *American Journal of Medical Sciences* 190:535-545, October 1935.

DUST AND TUBERCULOSIS

Because dusts which contain free silicon, such as sand and granite, are known to be harmful to tuberculosis when inhaled, Hawes confined his discussion to the so-called "harmless dusts." Those dusts generally looked upon as harmless as far as tuberculosis and the lungs are concerned are (1) those of organic origin made up of the protein dusts some of which may occasionally cause asthma, hay fever, or other anaphylactic phenomena, and the carbohydrate dusts, such as flower, which presumably have no effect, and (2) the inorganic nonsilicon-

containing dusts including lime, marble, and other elements. Talc, although a silicate, contains no free silicon and is generally considered harmless.

The question for study is whether it is safe for a man who has an arrested or quiescent tuberculous process in his lungs, of which he may or may not be aware, to go into a dusty occupation. Furthermore, if he breaks down and develops active disease, is the physician justified in saying that this reactivation of his tuberculosis arose not only "in the course of" but "out of" his work?

The author concludes from study and his personal experience, that exposure to harmless dusts in normal amounts and under normal conditions will not reactivate an arrested or quiescent tuberculous process. He believes, however, that dust in excess amounts under abnormal conditions, such as street dust in winter and fall or germ-laden dust from sleeping cars, which might cause irritation and infection of throat, trachea, and bronchi, is a potential source of harm. Dust which may cause allergic phenomena, such as asthma, asthmatic bronchitis, or hay fever, he does not believe will reactivate or harm a tuberculous process. As a result of his study, he feels that it would be quite all right for an arrested or quiescent tuberculous patient to take up a trade in which he would be exposed to harmless dust unless the dust conditions were extremely bad.

Hawes, John B.: *Dust and Its Relation to Tuberculosis*, *American Review of Tuberculosis* 31:601-610, June 1935.

METABOLIC RATES AND THERAPEUTIC FEVER

Altho the parallelism between fever and variations in the metabolic rate is well known, little work has been done in this respect on fever produced by the more recent physical methods. Kopp presents a study of the treatment of central nervous system syphilis with fever induced by several methods and the comparison of the increases in the metabolic rate obtained by these different methods.

Seven male patients were treated with induced fever every second or third day. A light breakfast was allowed at 6:30 o'clock; the patient was weighed at 8:00; a rest period of from forty-five to seventy-five minutes was granted; an initial metabolic rate was then determined; and fever treatment started. Fever was induced by five different methods: (1)

Diathermy current; (2) electric light cabinet and hot moist air; (3) a method combining these two; (4) electric blanket; and (5) mixed typhoid vaccine intravenously. In one patient, fever was induced by all five methods in order to compare the metabolic rates in fever induced by the different methods in the same individual. Rectal temperatures were used and were obtained by means of a self-recording motor-driven temperature unit.

An increase in the metabolic rate occurred when fever was induced by the combined method of diathermy current, electric light cabinet and hot moist air. A rather suggestive linear relationship was present, altho fluctuations, probably due to individual variations in the degree of discomfort, occurred at different temperature levels when the group was taken as a whole.

The removal of the insulating hot, moist air blanket when body temperature had reached its desired height was followed in nearly all cases by a rather steep fall in metabolic rate, whether body temperature remained at the same level, fell, or even rose.

Metabolic rates for similar temperature levels were higher when the temperature was rising than when falling.

Diathermy current per se over short intervals had no specific effect upon the basal metabolic rate, provided no rise in body temperature occurred, and alteration of the frequency of the current at increased temperature levels also caused no appreciable change in the metabolic rate.

In the patient in whom temperature rise was induced by the five different methods, the increases in metabolic rate showed a rather striking parallelism and did not differ much from the accepted rise of 7.2 per cent for each degree Fahrenheit except in fever induced by diathermy current alone.

Repeated fever treatment of one patient over a period of seven months had no residual effect upon the basal metabolic rate.

Kopp, Isreal: Metabolic Rates in Therapeutic Fever, *American Journal of Medical Sciences* 190:491-500, October 1935.

RENAL DIABETES

Ramond presents a case of renal diabetes in a woman thirty-five years old. The only other disturbances were a sustained loss of weight and a glycosuria of ten gm. per liter. Minor

symptoms were headache, respiratory difficulties, cardiac palpitations, irritability and scant menstruations, which may easily be explained by the operation for extra-uterine pregnancy fifteen years previous, a tendency to be too hot, and a temperature of 99.5 Fahrenheit every evening.

Three diagnoses in addition to renal diabetes suggested themselves: (1) Pulmonary tuberculosis, (2) Basedow's disease, and (3) diabetes mellitus.

Tuberculosis was suggested by the general frailty and the vesperal fever but was ruled out by the absence of all bacillary antecedents, personal or familial, in addition to negative roentgenologic and stethacoustic findings.

The emaciation, the tachycardia, the menstrual irregularity, and the irritability was suggestive of Basedow's disease, but the absence of an exophthalmic goiter, tremor and all secondary signs of hyperthyroidism ruled out this diagnosis.

Diabetes mellitus, suggested by the glycosuria, was ruled out by the absence of polyphagia, polydipsia, polyuria, and other conditions usually associated with diabetes, such as anthrax and furunculosis were also absent.

The name, "renal diabetes" was given to the syndrome by Klemperer, the first to describe it, and since that time it has been adopted altho a glycosuria without hyperglycemia has really nothing to do with diabetic disturbances of metabolism.

Renal diabetes is observed in all races, especially in younger years; its hereditary and familial nature, as well as the negative etiologic role of tuberculosis, syphilis, and alcoholism, is admitted by all. The glycosuria of renal diabetes is occasionally revealed. It is mild, rarely over twenty gm. per liter, and is permanent and exists in the fasting condition. The glycemia is normal or subnormal. The renal threshold is reduced making the renal tissue hyperpermeable to sugar. That is why there is glycosuria without hyperglycemia. The secondary signs of renal diabetes are absence of polyuria, polydipsia, polyphagia, and acidosis; a nondenutritional or nonconsumptive emaciation; absence of pus conditions and diabetids, and the presence of renal hepatic and slight endocrine trouble.

The prognosis is favorable, as it is not at all rare for people, in favorable circumstances to live with it until a ripe age in otherwise good health. The treatment was a generous contingent

of pastry, rice, legumes, potatoes, bread, fruit, desserts, etc.; a recuperative rest in the country; a few drops of iodine-iodide solution every day. The surgical removal of the nasal polyps was advised. Calcium salts, alone or in conjunction with parathyroid opotherapy, may be given in renal diabetes to compensate the loss of sugar.

Ramond, Louis: *Renal Diabetes*, La presse medicale 43:767-768, May 11, 1935.

TREATMENT OF NEPHRITIS

A good review of the changes in the treatment of nephritis is presented by Gauss. He deplores the ambiguousness of the term, "nephritis." In a narrow sense it indicates an inflammatory state of the kidney, one of the subdivisions of the Volhard and Fahr classification, and in a wider sense it indicates all types of nonsuppurative inflammations of the kidney. He urges that this latter broad sense be discontinued and some such word as "nephropathy" be substituted. Dr. William Johnson of the University of Colorado has prepared the following classification of "nephritis" based on the work of Volhard and Fahr: (1) Infections of the kidney; (2) acute interstitial nephritis; (3) glomerulonephritis; (4) nephrosis and (5) arteriosclerosis of the kidneys.

The hygienic measures in good repute today include moderation in living, the use of warm protective clothing, avoidance of undue exposure of the body, avoidance of strenuous exercise, moderate use of tea, coffee, and tobacco, and the prohibition of alcoholic beverages.

Although drug therapy has a place of minor importance today and diuretic drugs are considered important, digitalis as a heart tonic, vasodilators in hypertension, and cathartics when needed, have been retained. Blood letting, formerly popular, has retained only a minor place in the treatment of hypertension, while physical therapy on the other hand is gaining in importance.

Dietotherapy is important. The average patient with chronic Bright's disease requires about 2,000 calories; the patient convalescing from acute Bright's disease needs up to 3,000 calories; and the obese patient should be placed on a reducing diet of about 1,200 calories.

Salt restrictions still seem to be in use and water is used freely in all forms of nephritis. Protein restriction is practiced in uremia, and Lashmet advocates the use of ammonium chloride in the treatment of edema.

Gauss, Harry: *Changing Concepts in the Treatment of Nephritis*, Colorado Medicine 32:466-474, June 1935.

THE HINTON BLOOD REACTION FOR NEUROSYPHILIS

Grund presents a study of a small series of cases to determine the value of the Hinton blood test for the determination of syphilis. The Hinton test is simpler than the Wassermann and is used in place of it by the Massachusetts State Department of Public Health. Patients with syphilis undergoing treatment were chosen from the outpatient department and tested by the Wassermann, Hinton, and spinal fluid methods for syphilis. In four of the five cases, the Hinton reaction was negative although the Wassermann and colloidal gold curve showed the presence of syphilis. In the fifth case studied, the Wassermann and spinal fluid tests made after a period of treatment showed improvement but the Hinton test remained positive, regardless of the treatment and improvement.

Grund concludes that the Hinton reaction of blood is of no value in either the diagnosis or the management of neurosyphilis. A note at the conclusion of the article presents the results of a similar study made by Epstein at the Boston Psychopathic Hospital which support Grund's conclusions.

Grund, J. L.: *Exclusion of Neurosyphilis by Means of the Hinton Reaction of the Blood*, Archives of Dermatology and Syphilology 32:569-572, October 1935.

GASTRIC ULCERS

Bollman and Mann corroborate the findings of Van Wagoner and Churchill regarding the production of gastric and duodenal ulcers in dogs following continued administration of cinchophen. They believe that a clear understanding of the factors and mechanisms involved in the production and healing of experimental ulcers would explain many of the factors that cause the chronicity of peptic ulcers in man.

Normal dogs, weighing about ten kg., were fed one gm. of cinchophen (mixed with food) daily for five days of each week. No immediate effects could be noted, but its continued administration ultimately produced symptoms of gastric disturbance and death. Death was attributed either to peritonitis following perforation of a gastric or duodenal ulcer or to massive hemorrhage into the gastrointestinal tract from a bleeding ulcer. The time necessary for the development of symptoms ranged from one week to a year, although generally, about three months were sufficient

to produce chronic gastric ulcer. About ninety per cent of the chronic ulcers were located in the pylorus along the "Magenstrasse" one cm. in diameter and were either slightly anterior or posterior to the line of the lesser curvature of the stomach. Most of the ulcers were single, but as many as four were observed in one animal. In about one-half of the specimens studied, a more or less marked gastritis and duodenitis were present near the site of the ulcer. With large doses of cinchophen more gastritis was produced.

Bollman, J. L. & Mann, F. C.: Experimental Production of Gastric Ulcers, Proceedings of the Staff Meeting of the Mayo Clinic 10:580, September 11, 1935.

MEDICAL ECONOMICS

Edited by O. W. Davidson, M.D.
of the Medical Economics Committee

"THE FOUR HORSEMEN IN MEDICINE"

The first M. D. to read this article will say: "I've heard that line of argument before and I wish that he would talk about something different, or better still, not talk at all."

The second type will read it and say: "That is just the way I feel about it." Then of course they may drift along with the group that just "feel."

The third M. D. represents of course the type that will not read it at all. In fact, they seldom even look through the Journal, and the article could well be omitted.

There is then an M.D. who does not need to read it, because he represents the group that now studies and knows something about the subject. He has a conviction that "Something Must Be Done," and is working on the problem.

The famous "Four Horsemen" on Knute Rockne's team never would have been crowned with such a name if they had teamed together as you might imagine the four above M.D.'s would.

This last group represents the compatible co-operative type that will eventually give a righteous foundation to Medical Economics. They lay aside other things to attend the county

medical society meetings. Why? Because they are so scientifically interested? Certainly not, for many of them are interested in some specialty or topic entirely foreign to the paper that is to be presented.

First they recognize the importance of team work. They are aware that the individual star not only foils the well-laid plans of the society to effectually reach the goal, but soon becomes a parasite on the profession. Serving people; certainly, but taking advantage of everything that organized medicine has done for the public, and putting nothing back into the organization but a few paltry dollars, even begrudgingly in the form of dues.

Few societies have displayed their real strength as an organization. The full value of medical services will never reach the public until the doctors themselves put some co-operative and coordinated efforts behind general principles and force them ahead. Few societies have been able to recognize their strength as a union, because they have never functioned together in that manner.

To begin with, the doctor is an individualist. By choice of his profession and by training he develops the custom of making his own reconnaissance, he serves as his own plans officer, after which he assumes command and gives such orders as he deems best to achieve his goal. Whether the case survives or dies he merely marks it "end of problem" and sets about to solve the next one.

Naturally enough such an individual does not work well in an organization. He resists in many ways the actions of even a majority decision on a question before the society. True enough he may offer no substitute plan or any plan at all, and most certainly he will handle the matter in his own way with his patients in the future.

Gentlemen, scores cannot be produced with such team work. There must be some team work to make even the general plans function. Imperfect as the plan may be to start with, the flaws that develop can only be removed after they are recognized.

No one would say that we have spent too much time on the scientific side of medicine, but we have only ourselves to blame for spending so little time with the business or economic phase of it. Most doctors are reputed to be notoriously poor business men, and yet those same individuals frequently give more time to other activities and other people's business than

they do to the business end of their own practice. They frequently work well in other organizations, and follow the dictates and rules with pleasure and satisfaction. Why? Probably because the activities do not impose rules or infringements on their own methods of dealing with their patients. You will find them as successful bank directors, etc., largely because they attend the sessions and give some deliberate thought to the business before them.

To you who have attended to the business affairs of the county society, how often have you heard this question from those who do not attend? "What are you fellows doing about this indigent problem?", or "Why can't the A. M. A. get busy and make some plans that would help us out?", etc. etc. It is always the same accent on "You fellows." When informed that steps have been taken and that the results of the decision were printed in last week's bulletin, one usually gets the response, "Oh, I threw that thing in the waste basket, or I never heard anything about it." What can the Society expect to accomplish for a man like that. He probably would not carry the ball through the line if he saw a good opening.

The American Medical Association delegates have been and are working on economic plans, the state societies and county components have made plans, but plans without united support, no matter how perfect, are just ill-gotten conceptions unless satisfactory delivery methods are devised.

The regret of every doctor can truthfully be that too few of the logical thinking, influential, business minds in medicine have been available on this economic question.

The medical profession itself, more than anyone else, realizes that they cannot offer the most ideal medical service to all the people under the present economic stress. The large group of individuals that can pay very little or nothing to the physician are so demanding of his services that he is forced to turn from scientific to business studies. Certainly no group of men are better fitted to determine the kind and amount of medical service best suited to these individuals, and yet it is so difficult, even impossible, to get sufficient support behind any decision that a committee presents, notwithstanding that everyone recognizes they have thoroughly covered the problem presented and have been empowered to act for the Society.

Gentlemen, the physician does not have to be educated to the need of a plan for action, but he is the most difficult one to educate in the ways of enforcing the plan. We need not worry about educating the public until we can all talk the same language; right now they are doing quite well in their lessons under the tutelage of the lay organizations, and unless we rapidly develop our ability to co-operate on this team we may have the rules rewritten and have to learn the game all over again to play it their way. Go to your next society meeting and agree on some plans, preferably the one presented by the state to all the county societies. It is not perfect, but it is working well where it is in operation. It will work in your county if you will work it, (all of you.)

HIGH SCHOOL DEBATES

In the last issue of the Journal were listed the high schools of Kansas that will debate on the question, "Resolved That the Several States Should Enact Legislation Providing for a System of Complete Medical Service Available to All Citizens at Public Expense."

If there is any question in the minds of the medical profession over the state as to how seriously this question will be considered, they need only ask some member who attended the public meeting of the Southwest Clinical Society in Kansas City, Missouri, the night of October 9, 1935, what he observed.

The writer counted eleven different youths and two deaconesses close to him who gave little attention to the first two speakers, but made rather noisy efforts to get notes on everything Dr. Arthur C. Christie stated about the Washington, D. C. plan for care of the indigent and semi-indigent. No doubt such groups could have been found throughout the entire audience.

In a recent issue of a medical publication statements were given from various of the foundations denying the accusation that they had been responsible for the presentation of this subject. Needless to say there could be no better breeding place for the growth of these ideas than in the minds of thousands of high school and college youths. The issues will be raised in many homes and presented before many audiences. There will be, no doubt a

rather even division of the opinions formed in these various homes represented, due to parental interest in the debater, if for no other reason.

It will be interesting to watch the developments and see whether the resultant ideas prove advantageous to either side.

The members of the medical profession should keep themselves informed, else they may find themselves in embarrassing positions, for very likely their families will confront them with many questions on the subject.

Each member of the county society should be glad to offer assistance to both the affirmative and the negative teams. We have no alibis to offer and the best defense of our present attitudes on the question will be the truthful presentation through lay groups to lay audiences.

Urge the appointment of a committee in your local society, to cooperate with the debate coaches and school officials, to see that they get full and accurate information. Be constructively critical.

MEDICAL ECONOMICS PLAN

The plan approved by the Kansas Medical Society for rendering medical care to county direct relief clients and the relief groups classified under the alphabetical letters, were printed in detail in the October issue of the Journal.

These plans have been presented by members of the Committee on Medical Economics to groups in each Councillor district of the state. The plans were enthusiastically received in each instance where discussions were presented that fully explained the work that had gone on in the Committee and the reasons for this type of plan.

It is hoped that each representative at those meetings were so well informed that they can successfully present the proposition to their various societies.

Some counties are now operating under the plan and report very satisfactory results. Very likely it will gain earlier favor in the less densely populated counties where the relief rolls are not so heavy and particularly where the county medical society members unite their efforts in seeing that it works. It will fit the needs in the larger counties in the same ratio, but in such counties the officials have not been paying their proportionate share for the care of their

indigent and the members of the society continue to assume a great part of the county physician's burden, which helps to keep those officials and the public unaware of the real situation.

It is anticipated that, if the county physician were paid an adequate salary to take care of the indigent cases in that county, plus the other necessary expenses connected with medical care, the county officials could save money on this plan and still render better medical care to their relief clients and more satisfaction to the doctors.

—JKMS—

“Mental Injury,” W. M. Brewer, M.D.

(Continued from page 457)

and an insane person is that the psychiatrist realizes the irrational nature of his doubts and fears and impulsive tendencies, and to certain extent can control them as far as they affect his actual conduct.

Associated with these symptoms are frequently found tics such as grimacing, head nodding, and other apparently purposeless but habitual movements.

All degrees of the condition may occur. In some there is little more than a tendency which is comparatively easily held in check. While in others the mental conflict produced is sufficient to lead to almost perpetual misery and complete lack of judgment to life.

It is often said that the psychasthenic is born and not made, but this is not true only in a limited sense. Inherited variations in instinctive intensity undoubtedly play a most important part in his constitution, but the influence of early environment counts also for a great deal, and it must be remembered that many persons arrive at a condition which is clinically identical with psychasthenia as a result of stress of abnormal circumstances in adult life.

Psychasthenia is a condition in which there is a constant conflict between ego impulse and varying number of relatively undifferentiated and abnormally powerful primitive instincts. The ego impulse function as a whole within the field of the personal consciousness; the anti-egoistic impulses may either function within or without the field. Failure to inhibit anti-egoistic action predisposes to further failure.

The essential feature of conscious volition is the activity of the sentiment of self-regard, which when applied to the reinforcement of any particular line of action is sufficient under normal circumstances to carry it into effect to the exclusion of any opposing trend. In psychasthenia, however, the sentiment of self-regard is relatively weak, and tends to become weaker as the condition persists. There is failure of volition. Activity is inhibited, and doubt remains unresolved. In extreme cases this condition of state of affairs arises every time any decision, however trivial, has to be made. The phrase "not sure of his self" is an accurate description of such a state of mind.

Anxiety belongs to the group of emotions described as "prospective emotions of desire." It normally occurs when conative impulse is thwarted and the fold of conation is receding from view, and the more powerful the impulse in question is, the greater will be the anxiety. In psychasthenia there is constant obstruction of conative activities both of egoistic and anti-egoistic tendencies with a corresponding production of anxiety.

The state of doubt and anxiety are thusly dependent for their production on inhibition of activity.

Mental symptoms should not be translated on a physical basis unless there is definite organic proof, and the psychoneuroses are so important and met with so frequently that this subject should be stressed in our medical schools. Most of the cases are painfully aware of their conflicts and deficiencies, and are constantly on the defense to establish face composure and to save their emotional make-up from assault with its harmful consequences to them. Frequently these wounds occur in adolescence, and are added to from time to time, gradually producing a chain of malignant events which colors the introspection of the psychoneurotic and does not permit of enjoyment of the pleasant occurrences which normally should form a portion of their mental life.

Another group that we meet are the unfortunate failures striving for unattainable ideas, endeavoring to reach a mark of perfection which is entirely beyond their grasp. Lack of courage to face every day problems is closely allied to the psychoneurotic state. Many of these so poorly equipped spend much of their time overcoming inhibitions, doubts, and fears.

There is a splendid opportunity for the family physician in the realm of psychiatry because of his close contact with the individual patient in the home. Early and mild mental symptoms should be interpreted very carefully, and treated in accordance with the best understanding that may be had at the time.

That is, the best treatment of these conditions is mental hygiene of the preventive character. The unusual self-conscious individual should endeavor to overcome this condition, and failing in this, should seek the counsel of a competent psychiatrist. At the proper time much can be done by personal adjustment of the individual or by seeking to better his environment.

The stimulating of confidence and ambition will often do much for the psychoneurotic, and certainly kind words of encouragement have great value. Specific treatment of this class of cases is brought about by scheduled living. The more hours devoted to pleasant work skillfully arranged, the better. The confidence inspired by tactful kindness is infinitely more lasting than that produced in any other way.

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—JKMS—

According to R. G. Hoskins, Biston (Journal A. M. A., Sept. 21, 1935), the thyroid, despite numerous recent observations on other glands, is still the one of most importance to the practical pediatrician. Minor degrees of thyroid deficiency as causes of disorders in childhood are of frequent occurrence. The derivation of active substances from the anterior lobe of the hypophysis has given somatotrophic gonadotropic, mammatropic, thyrotrophic and adrenotropic fractions, each of which presumably enters into the problems of the pediatrician. The influence of the pituitary body on carbohydrate, fat and water metabolism demands practical consideration. The relation of the adrenal cortical hormones to growth and lactation is of special pediatric interest, as is also the newer work on thymic extracts. The influence of hormone factors on the personality demands study. Some of the difficulties of endocrine research are the complex nature of the relationships involved, the difficulties of diagnosis, the recently reported existence of antihormones, variations of tissue reactivity, the diphasic influence of individual hormones and the special effects of glandular imbalance. The responsibility for the final solution of the endocrine problems if infancy and childhood devolves primarily on the pediatricians.

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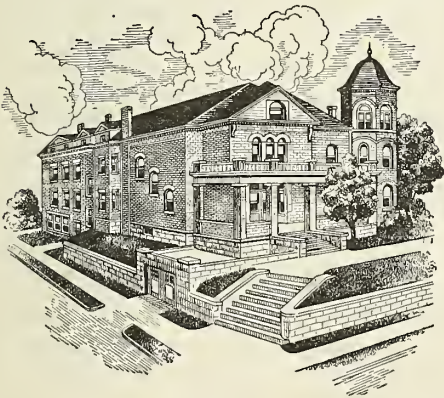
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NEWS NOTES

SOCIALIZED MEDICINE DEBATES

As reported in the October issue of the Journal and in a bulletin to county medical societies under date of October 12, packets of material pertaining to socialized medicine were recently forwarded by the Society to approximately two hundred Kansas high schools. This activity was directed in an effort to assist inter-scholastic debate teams which are this year debating a question relating to that subject. Since that time additional material has been obtained and a second packet containing the following pamphlets will be forwarded to the same schools on approximately November 5:

- Prepayment Plans for Hospital Care.
- Group Practice.
- Medical Relations Under Workmen's Compensation.
- New Forms of Medical Practice.
- Collecting Medical Fees.
- An Introduction to Medical Economics.

Another matter of interest in this connection is that the National Broadcasting Company has arranged for a radio debate to be held on the same question of socialized medicine from one o'clock until two o'clock P.M. central standard time, on November 12. Speakers for the affirmative will be: Professor Bower Aly, University of Missouri, Editor of the Debate Handbook, and William Trufont Foster, director, Pollak Foundation; negative speakers will be, Dr. Morris Fishbein, and Dr. R. G. Leland, both of the American Medical Association. Stations accessible to Kansas which will present this broadcast are: WDAF, Kansas City, 610 kilocycles; WOW, Omaha, 590 kilocycles; KOA, Denver, 830 kilocycles; and KVOO, Tulsa, 1140 kilocycles.

SECTIONAL MEETINGS

Members of the Medical Economics Committee through assistance of the various Councilors arranged and attended the below described sectional meetings for the purpose of explaining and discussing the plan recently announced by that Committee for indigent medical care:

- 8:00 P.M. Thursday, October 3, Court House, Holton.
- 8:00 P.M. Friday, October 4, Tioga Hotel, Chanute.
- 8:00 P.M. Saturday, October 5, Country Club, Ottawa.
- 8:00 P.M. Sunday, October 6, Country Club, Clay Center.
- 8:00 P.M. Sunday, October 13, Country Club, Ellsworth.
- 8:00 P.M. Monday, October 14, Moore Hotel, Hill City.
- 8:00 P.M. Tuesday, October 15, Lora Locke Hotel, Dodge City.
- 8:00 P.M. Wednesday, October 16, Allis Hotel, Wichita.

Representation from counties was excellent at all of the meetings and much interest was expressed in the plan.

Several county medical societies have adopted its provisions and it is believed that twenty or twenty-five additional counties will place it in effect during the next month.

Officials of the Society were also interested in this event as an experiment to determine whether or not the sectional meeting method offers a practical means for discussion of problems and projects. If members believe meetings of this kind are successful it is probable that additional series will be held at future intervals for consideration of legislative, economic, and other similar proposals.

KANSAS CITY SOUTHWEST CLINICAL MEETING

The thirteenth meeting of the Kansas City Southwest Clinical Society was held in Kansas City, Missouri, October 7-10.

General comment seemed to indicate that this year's meeting was one of the most successful ever held by that organization. Attendance was second largest in the history of the society. The scientific program was well filled with good speakers who talked on practical subjects of current interest, and most sessions were attended to capacity. Dr. Arthur Christie, Washington, D. C., presented an innovational series of medical economics lectures which were splendidly received. Commercial exhibits were in demand to the extent that all exhibitors could not be accommodated.

Dr. C. C. Nesselrode, president for 1935-36, delivered a presidential address on "Socialized Medicine", which was timely and well prepared. Its content was probably best complimented by the following editorial that appeared in the Kansas City Star:

"MEDICAL SERVICE TO MORE PEOPLE

The question of making the best of medical service available to larger numbers of people is being given a needed emphasis by leaders in the Kansas City Southwest Clinical Society conference. This is indicative of a changing attitude on the part of the organized medical profession. The first reaction from this source to socialized or so-called state medicine was frankly antagonistic. There were sound reasons for the position; others that were unsound. But it is being seen that, whether or no, socialized medicine is an actual possibility; so the profession wisely is seeking to work out a middle course.

The nature of such a course is signaled by the expressed views of Dr. C. C. Nesselrode of Kansas City and by the Washington plan of broadened medical service described by Dr. Arthur C. Christie of that city. Dr. Nesselrode counsels a general practitioner awakening looking to co-operation with social agencies and governmental authorities to prevent the extreme of state medicine under public and quite possibly inefficient bureaucratic control, but at the same time to spread the benefits of reputable service to the various classes of the people in accordance with their ability to pay. Dr. Christie shows how this is being done through the medium of moderate monthly payments by 10,000 members of a group hospitalization and medical plan in Washington.

Particularly in the larger cities of the country there have been approaches to such an arrangement. It permits control by the medical profession rather than public or

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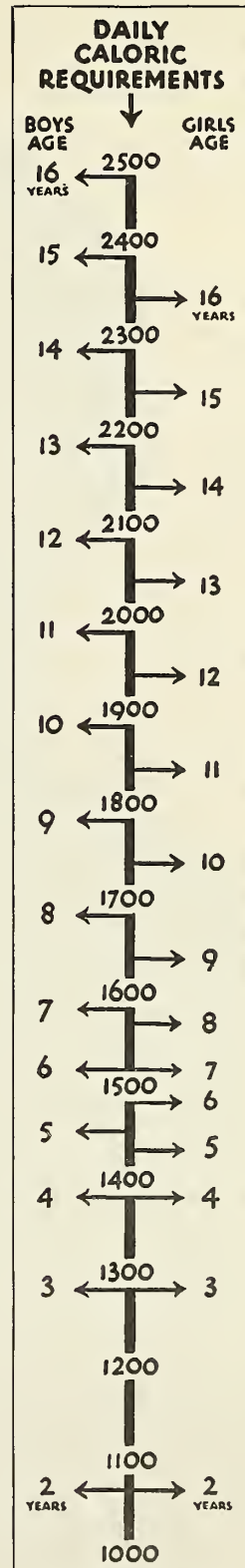
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governmental agencies and maintains the necessary personal relationships between physician and patient. The installment method of payment follows a system that has been found widely useful in the business world in bringing within the reach of millions commodities and services which they otherwise could not obtain. A plan of this general character well may prove to be the best response to a growing demand for genuine socialized benefits from the marked advances in medical science."

HONORARY MEETINGS

Three interesting meetings were held during the past month to honor several prominent members of the Society who had been engaged in practice for fifty years or more.

The Brown County Medical Society was host at a dinner honoring Dr. W. W. Nye, Hiawatha, on his 89th birthday anniversary. Dr. E. K. Lawrence presented Dr. Nye with a gift from the society of 100 cigars. Dr. George McKnight, Dr. H. J. Deaver, Sabetha, and Dr. W. G. Emery, Hiawatha, spoke on Dr. Nye's service to the profession and of his days as a pioneer physician. A telegram from Governor Alf M. Landon was received and read as follows: "I desire to join the Brown County Medical Society in honoring you on your 89th birthday anniversary. Your service to your country, to your community, to your profession merits the esteem and friendship of all Kansans." After the dinner, the society discussed the Kansas Medical Society's Plan for providing medical attention to relief workers.

Dr. A. C. Flack, Fredonia, was honored with a banquet on October 15, by the Wilson County Medical Society members. Dr. E. C. Duncan acted as toastmaster and introduced Dr. W. H. Young, president of that society. The Reverend Charles D. Todd, of Salpula, Oklahoma, gave the main address of the evening. Dr. M. A. Duncan, Chanute, father of Dr. E. C. Duncan, talked about the medical profession in the pioneer days and Dr. Flack's part in it. Dr. F. M. Wiley then presented the honor guest with an easy chair. Dr. Flack gave an address to the members present.

Dr. J. P. Kaster, Topeka, was the honor guest at a banquet at the Hotel Jayhawk, in Topeka on October 15 after completing fifty years of service to the Santa Fe Railway. The banquet concluded an all day session held by the physicians and surgeons of the Santa Fe. Dr. Fred S. Clinton, Tulsa, Oklahoma, spoke on "Our Chief Surgeon as Seen by a Local Surgeon" and Mr. H. C. Pribble, Topeka, spoke on "Our Chief Surgeon as Seen by a Railway Official."

CENTRAL NEUROPSYCHIATRIC CONVENTION

Unusually large attendance marked the Fourteenth Annual Convention of the Central Neuropsychiatric Association October 25-26 in Topeka. There were fifty-five members and forty-six guests, all physicians, who registered. The guest speaker was Dr. Smith Ely Jelliffe, New York, who spoke at the annual dinner at the Jayhawk Hotel on "The Ecological Principle in Medicine."

Local members of the Association presented the rest of the program, all scientific sessions of which were held

in the recreation center of the Menninger Clinic, Topeka. It is the custom of the organization to have the host members present their work. In this instance Kansas City members as well as California members contributed to the program by invitation because this is as far west as the Association is likely to meet for some time. The program was as follows:

FRIDAY, OCTOBER 25

Morning Session:

B. Landis Elliott, M.D., Kansas City—"Myasthenia Gravis."

A. L. Skoog, M.D., Kansas City—"Olivio-pontine Cerebellar Atrophy: Case Presentation."

William C. Menninger, M.D., Topeka—"Individualization in the prescriptions for Nursing Care of the Psychiatric Patient."

Luncheon: Mr. Tom McNeal, Veteran Kansas Newspaper Editor, Topeka.

Afternoon Session:

Ralph M. Fellows, M.D., Topeka—"Folie A Deux; Case Report and Discussion."

Samuel D. Ingham, M.D., Los Angeles, California—"Word Blindness and Associated Symptoms."

F. G. Lindemulder, M.D., San Diego, California—"A Comparison of the Kahn Reaction of Blister Serum, Blood and Spinal Fluid."

G. S. Waraich, M.D., and Leo Stone, M.D., Topeka—"Neurological Clinic with Demonstration of Neuropathological Specimens."

Banquet: Presidential Address by Dr. George W. Hall, Chicago, and the guest speaker, Dr. Smith Ely Jelliffe, New York, on "The Ecological Principle in Medicine."

SATURDAY, OCTOBER 26

Morning Session:

Edward T. Gibson, M.D., Kansas City—"Automatic Writing of Verse."

Robert P. Knight, M.D., Topeka—"The Psychodynamics of Chronic Alcoholism."

Norman Reider, M.D., Topeka—"Self-Mutilation in Paranoia: A Psychiatric Case Study."

C. F. Menninger, M.D., and N. W. Ackerman, M.D., Topeka—"Treatment Techniques in a School for Retarded Children: Case Presentations."

Luncheon: Informal talks by members.

Afternoon Session:

J. F. Brown, Ph. D., University of Kansas—"Some Recently Devised Psychological Techniques Applicable to the Experimental Study of Psychopathic Cases."

G. Leonard Harrington, M.D., Kansas City—"On Fear and Getting Even: A Psychoanalytic Case Study."

Leo Stone, M.D., and Karl A. Menninger, M.D., Topeka—"The Psychogenesis of Somatic Disease—
a. Organic Aspects—b. Psychological Aspects."

Picnic:

Campfire Reminiscences: Dr. Peter Bassoe, and other ex-presidents.

Physicians were present from New York, Connecticut, California, Wisconsin, Michigan, Illinois, Minnesota, Ohio, Texas, Oklahoma, and Missouri.

Dr. Titus Harris, Galveston, Texas, was elected president of the Association for the coming year. Other officers elected were: Dr. B. Landis Elliott, Kansas City, Mis-

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souri, vice-president; Dr. Henry W. Woltman, Rochester, Minnesota, secretary-treasurer; Dr. George W. Hall, Chicago, Illinois, counsellor.

COUNTY MEDICAL SOCIETIES

Members of the Kansas-Nebraska Medical Association attended a dinner-meeting in Hiawatha on October 17. Dinner was followed by a scientific program given by Dr. C. C. Conover, and Dr. E. R. Deweese, Kansas City, Missouri, who discussed "Chronic Functional Disorders of the Colon." Another meeting will be held in Falls City, Nebraska during January.

A meeting of the Butler-Greenwood County Medical Society was held in Eureka on October 18 with Dr. H. E. Marchbanks, Pittsburg, as the guest speaker. His talk was entitled "Hypertensive Heart Disease."

Cloud County Medical Society, with the cooperation of the State Board of Health and the County Commissioners, has immunized more than 1600 school children with diphtheria toxoid since the latter part of September.

Dr. J. C. Montgomery, Kansas City, and Dr. Donald R. Black, Kansas City, appeared on the program of the Crawford County Medical Society at their meeting on October 3 in Pittsburg. Dr. Montgomery spoke on "Cancer of the Colon" and Dr. Black on "Diabetes."

Dr. W. R. Dillingham, and Dr. Perry Lloyd, Salina, were guests of the Dickinson County Medical Society at a dinner-meeting in Abilene on October 17. Officers were elected for the coming year as follows: Dr. J. N. Dieter, Harper, president; Dr. W. A. Klingberg, Hope, vice-president; Dr. L. G. Heins, Abilene, secretary. Dr. Dillingham, a member of the Society's Medical Economics Committee, led a discussion of the Kansas Medical Society Plan for care of the indigent.

"Anesthesia, Past and Present" was the title of the subject discussed by Dr. Hjalmar Carlson, Kansas City, Missouri, at the regular monthly meeting of the Douglas County Medical Society in Lawrence on October 3.

Members of the Johnson County Medical Society met in Gardner on October 21 for the monthly meeting of the society. Guest speakers for the evening were as follows: Dr. Earle G. Brown, Topeka, secretary, State Board of Health; Mr. Ross L. Laybourn, Bacteriologist Public Health Laboratory; and Dr. Edmer Beebe, Olathe.

Plans for free immunization of school children are being completed by members of the Marshall County Medical Society and the County Commissioners. Toxoid will be furnished by the State Board of Health and be administered by physicians of that society.

A special meeting of the Montgomery County Medical Society was held in Independence on September 27 to discuss medical relief plans.

The Northwest Kansas Medical Society held an afternoon and evening meeting in Norton on October 23. Dr. L. A. Calkins, University of Kansas, spoke on "Carcinoma of the Cervix" and Dr. C. F. Taylor, Norton, gave a talk on "Surgery in Pulmonary Tuberculosis". Dinner was served at the Norton Sanatorium.

A clinic for the crippled children in Barton, Edwards, Ford, Hodgeman, Ness, Russ, Stafford and Pawnee counties, was held under the auspices of the Pawnee County

Medical Society in Larned on September 20. Dr. C. B. Francisco, Kansas City, Missouri, was in charge with Miss Grace Moore, field nurse for the Crippled Children's Commission, as his assistant. A dinner meeting, following the clinic was attended by Dr. Francisco and Mr. William Allen White, Emporia.

Members of the Pratt County Medical Society were hosts to twenty-two out-of-town physicians at their dinner-meeting and program in Pratt on September 27. Dr. J. H. Dangle, Kansas City, Missouri, read a paper on "Angina Pectoris and Coronary Occlusions" and Dr. Ferdinand C. Helwig, Kansas City, talked on "Gross Pathology of Heart Lesions."

The Sedgwick County Medical Society held a meeting on October 1 in Wichita. A number of the local physicians presented papers at the meeting following the dinner. The program was as follows: Dr. Henry N. Tihen, "Addison's Disease"; Dr. W. G. Gillett, "Foreign Protein in the Treatment of the Eye"; Dr. G. E. Cowles, "Treatment of Fibroids"; Dr. Charles Rombold, "Differential Diagnosis and Treatment of Perthes' Disease with Case Presentation"; Dr. Hal E. Marshall, "A Consideration of Some of the Common Diseases of the Nose and Throat"; Dr. H. F. Hyndman, "Treatment of Surgical Diabetes"; Dr. F. L. Menehan, "Recent Advances in Preventive Pediatrics"; Dr. W. J. Kiser, "Pulmonary Embolism". Another meeting on October 15 was held for the report of the Medical Economics Committee.

A meeting of the Shawnee County Medical Society was held on October 7 in Topeka with Dr. Howard L. Alt, Northwestern University Medical School as the principal speaker. Dr. Alt's topic was "The Origin and Morphology of Blood Cells with Application to Disease." The November meeting will be held on November 4.

The Washington County Medical Society met on September 23 in Washington with the following members present: Drs. H. G. Hurtig, and F. H. Hhoades, Hanover; Z. H. Snyder, Greenleaf; Fred E. Rogers, Linn; D. A. Bitzer, W. C. Burnaman, and H. D. Smith, Washington.

The Wilson County Medical Society, acting on the plan recommended by the Medical Economics Committee, recently made a contract with their County Commissioners wherein an amount of \$3,000 will be paid to that society for the care of the direct relief clients during the next year. Conferences are also being held with the Wilson County Labor Council in the interest of instituting the Kansas Medical Society Plan for providing medical attention to relief workers.

The October meetings of the Wyandotte County Medical Society in Kansas City were as follows: On October 2 Dr. Willis McKean, Kansas City, spoke on "Surgical Treatment of Empyema," Dr. L. Lafe Bresette, Kansas City on "The Failing Heart," and Dr. C. E. Coburn, Kansas City, on "Recent Advances in the Use of Convalescent Serum in Contagious Diseases"; on October 16 at Providence Hospital, Kansas City, Dr. Clarence A. Gripkey, Kansas City, spoke on "Factors Determining the Time of Operation of Patients with Hyperthyroidism"; on October 23, "Hydatidiform Mole Followed by Chorioepithelioma Metastasis" was given by Dr. Z. Miles Nason, Kansas City.

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NEW BOOKS RECEIVED

PRACTICAL CLINICAL PSYCHIATRY FOR STUDENTS AND PRACTITIONERS by Dr. Edward A. Strecker, professor of psychiatry and chairman of the department of psychiatry University of Pennsylvania and Dr. Franklin G. Ebaugh, professor of psychiatry, University of Colorado School of Medicine. Published by P. Blakiston's Son & Company, Inc., Philadelphia, at \$5.00 per copy.

DISEASES OF THE NOSE AND THROAT by Dr. Charles J. Imperatori, professor of clinical otolaryngology New York Post-Graduate Medical School, Columbia University, New York, and Dr. Herman J. Burman, instructor of clinical otolaryngology, Columbia University. Published by J. B. Lippincott Company, Philadelphia.

MORBIDITY REPORT

New communicable disease cases in the state as compared with last month are reported by the Kansas State Board of Health as follows:

Disease	Month ending October 19	Month ending September 21
Scarlet Fever	233	108
Mumps	119	67
Chickenpox	107	25
Whooping cough	94	172
Syphilis	85	108
Pneumonia	83	37
Gonorrhea	67	129
Diphtheria	67	21
Tuberculosis	64	69
Typhoid Fever	34	54
Smallpox	18	16
Measles	14	19
Cancer	7	2
Poliomyelitis	6	6
German Measles	6	5
Vincent's Angina	5	0
Malaria	4	6
Meningitis	4	1
Erysipelas	4	3
Encephalitis	2	9
Undulant Fever	2	4
Tetanus	2	0
Pink-eye	2	0
Influenza	1	3

MEMBERS

Dr. A. C. Anthony, formerly of Clyde, has opened new offices in Concordia.

Dr. T. J. Brown, Hoisington, attended the Interstate Postgraduate Medical Association of North America meeting held in Detroit, from October 14-18.

Dr. W. A. Carr, Junction City, has gone to New York to attend the New York Post Graduate School for a two month's period.

Dr. W. C. Menninger, Topeka, was elected president of the Central Neuropsychiatric Hospital Association which held its meeting in conjunction with the Central Neuropsychiatric Association in Topeka on October 25-26.

Dr. R. B. Stafford, Topeka, State Board of Health, Dr. F. E. Coffey, Hays, and Dr. L. A. Latimer, Alexander, were in Oakley September 30 conducting a clinic for the benefit of the Oakley school children, in conjunction with local physicians.

Dr. L. C. Joslin, Harper, has purchased property in Harper upon which he will build a new hospital.

Dr. R. J. Miller, Topeka, has moved his offices to the National Reserve Building, where he is now associated with Dr. W. B. McAdow, a dentist.

Dr. J. H. A. Peck, St. Francis, was the victim of an unusual accident on September 30. While driving in his car to make health inspections in several district schools, the gun he was carrying accidentally discharged and entered his left leg, as he was attempting to kill a rattlesnake lying in the middle of the road.

Dr. Frank Moorehead, has opened an office in Neodesha in the same building, formerly occupied by his grandfather, Dr. F. T. Allen and by his father, the late Dr. J. L. Moorehead.

Dr. Dan P. Quiring, Newton, has been chosen to make an expedition into Africa with Dr. George Crile, of Cleveland, Ohio. Dr. Quiring has been doing research work in the Cleveland Clinic for the past year after graduating from the Western Medical Reserve University.

Dr. R. M. Troup, Garden City, has gone to California, where he will take a three months post graduate course in the University of California at San Francisco. Following this he will spend three months in the general hospital in Los Angeles.

ANNOUNCEMENTS

The American Medical Association radio programs for November are as follows: November 5, "Hemorrhage," Morris Fishbein, M.D.; November 12, "Infection," Morris Fishbein, M.D. November 19, "Common Household Emergencies," Dr. W. W. Bauer; November 26, "Automobile Accidents," Dr. Morris Fishbein. These broadcasts are heard over the Blue Network and certain additional stations of the National Broadcasting Company at 4 o'clock central standard time, each Tuesday.

—JKMS—

Members of the Medical and Surgical Association of the Southwest, will be hosts to physicians at a meeting from November 21-23 in El Paso, Texas. Physicians desiring further information may write to the secretary, Dr. W. Warner Watkins, 15 East Monroe Street, Phoenix, Arizona.

—JKMS—

The American Association of Railway Surgeons, will hold a meeting in Chicago, from November 13-15. Further information may be obtained by writing Dr. Louis J. Mitchell, Secretary, 86 E. Randolph Street, Chicago, Illinois.

—JKMS—

Physicians desiring information concerning the meeting of the Radiological Society of North America, to be

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held in Detroit, from December 2-6, write to Dr. Donald S. Childs, Secretary, 607 Medical Arts Building, Syracuse, New York.

—JKMS—

The American Board of Otolaryngology will hold an examination in Kansas City, Missouri, May 9, 1936, during the meeting of the American Medical Association, and in New York City, October 1936, just prior to the meeting of the American Academy of Ophthalmology and Otolaryngology. Exact date has not been set as yet. Prospective applicants for certificate, should address the Secretary, Dr. W. P. Wheery, 1500 Medical Arts Building, Omaha, Nebraska, for application blanks.

—JKMS—

The meeting of the Southern Medical Association in St. Louis, Missouri, will be held from November 19-22. Further details may be secured from Mr. C. P. Loran, Secretary, Empire Building, Birmingham, Alabama.

DEATH NOTICES

Dr. P. P. Trueheart, 84 years of age, died at his home in Sterling, on October 26. He was one of the pioneer physicians of Kansas, having constructed a sod-house as his first hospital for service to his community. He was born in 1851 and came to Sterling in 1877 where he practiced for over fifty years and until his retirement several years ago. He was graduated from the Hospital College of Medicine in Louisville, in 1876. He was a member of the Rice County Medical Society and the American Medical Association.

PUBLIC HEALTH

The following material was furnished through the courtesy of the Kansas State Board of Health:

American Public Health Association: The 64th Annual Meeting of the American Public Health Association was held in Milwaukee, October 7-10, inclusive. The registration was in excess of 2,000, the largest attendance in recent years. Dr. E. L. Bishop, former Tennessee State Health Officer and now Medical Director of the Tennessee Valley Authority, President of the Association, cited in his address four objectives obtainable under the Social Security Act: (1) Equal opportunity for adequate health service for all people; (2) End of overlapping between local, state and federal health programs; (3) Transformation of public health to a "career service" with banishment of politics, and (4) Extension of basic research.

There was much interest in the two papers on the poliomyelitis vaccine, presented by Drs. Park and Brodie and Dr. Kolmer. The essayists discussed in detail the preparation of their respective vaccines. The Park and Brodie vaccine is a killed vaccine in which relatively fresh virulent virus is used to produce the disease in monkeys. The animals are killed in the late stages of the disease and the cord removed. The cord is finally ground and suspended in salt solution, and a small amount of formaldehyde added. This suspension is then stored in an icebox, is an inactivated mixture and is given in five cc. doses. It is not recommended if exposure has occurred.

Dr. Kolmer uses monkey passage virus, the virus being passed through a series of monkeys. The theory is that the passage lowers the virulence of the virus for human beings. The cord is removed, ground and suspended in

salt solution with phenyl mercuric nitrate (1-80,000) added to prevent bacterial contamination and also theoretically to reduce the virulence of the virus. The dosage varies with the age of the child to be vaccinated.

Authorities who discussed the papers questioned the efficiency of the Brodie-Park vaccine but expressed the opinion it was safe and should be given a further trial until at least 100,000 children had been vaccinated. One of the authorities termed the Kolmer vaccine "unsafe." Dr. John P. Kohler, Health Commissioner of Milwaukee, discussed the scarlet fever epidemic in that city which began in January 1934, reached a peak in October, declined and reached a new peak in January 1935. Immunization was used to combat the spread. Only forty-three per cent of children immunized did not have reactions. Twenty per cent showed reactions after the second, third, or fourth doses. A limited number of cases developed in immunized children.

The Diphtheria Committee made the following report on alum precipitated toxoid: "In answer to the question of whether or not alum precipitated toxoid is bearing out its early promise of being a satisfactory immunizing agent it must be accepted that the results published on its use in the United States to date show it to be very effective in converting Schick positive children to the Schick negative state. It must be pointed out, however, that the final proof of its efficacy will be the effect of alum precipitated toxoid injections on the incidence of diphtheria and on the permanency of the Schick test. For all practical purposes the preliminary, and the post Schick test may be dispensed with in pre-school children, though the family should be informed that the child may belong to the small group of children who are not immune after a single injection with alum precipitated toxoid. In case of exposure to diphtheria or when diphtheria is prevalent in the community, the Schick test should be given to all children who had had active immunizing treatment but who have not had a negative Schick test. This will enable the physician to determine the status of immunity."

—JKMS—

At the meeting of the State Laboratory Director's Association in Milwaukee, October 6, Ross L. Laybourn presented an original paper on: "Are Meningitis Carrier Surveys Worth While—Field Experiences."

—JKMS—

Only 11 infantile paralysis cases with two deaths were reported in the past two months.

Sumner County reported a diphtheria death this month, the first in 3 years.

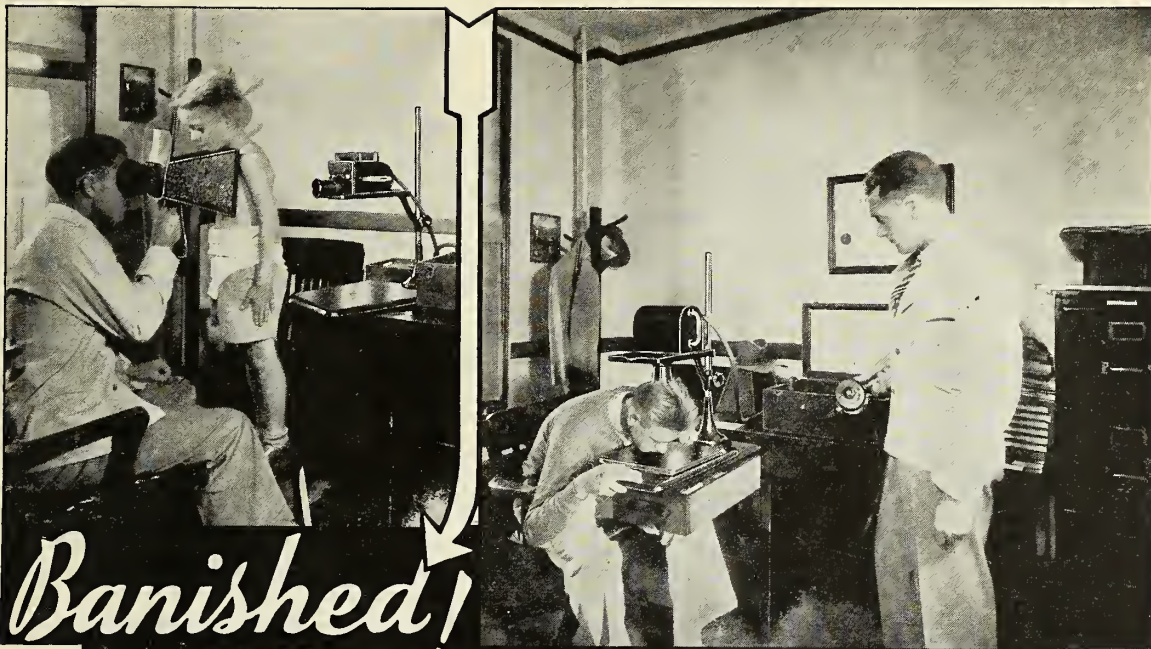
Only 23 typhoid fever deaths were reported in the past nine months; three more than in 1934.

There seems to be accepted evidence that acute anterior poliomyelitis was present in Egypt 3700 years B.C.

The 1935 provisional infant mortality rate is 50.3; 50.8 for 1934.

—JKMS—

Burned to Death.—According to tabulations by the State Board of Health, a total of 2,092 Kansans were burned to death during the years 1912-1934 inclusive—450 of these were caused by conflagrations. An analysis of deaths because of accidental burns in the home during the years 1930-34 inclusive, shows a total of 511; nearly one-third were caused by making fires with kerosene; twenty per cent were burned to death when clothing caught fire from gas ranges or heaters, opening stove



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doors, or by trash fires, and eight per cent were caused by falls into hot water. Of the last type most of the victims were very young children who fell into tubs or buckets of water, prepared in many instances, for scalding chickens. The locality of fatal home burns discloses the kitchen, where fifty-seven per cent of these burns occurred during the last five years, as the most dangerous spot, chiefly because of kerosene fires. Nineteen per cent occurred in the living room and twelve per cent in the bed room. Approximately seventy per cent of the fatal accidental burns take place during the months October to April, inclusive.

WOMAN'S AUXILIARY

The regular meeting of the Brown County Medical Auxiliary was held on October 17 in Hiawatha, with Mrs. W. G. Emery, president, presiding. Mrs. Paul Conrad, secretary, read a paper from the state president, Mrs. M. O. Nyberg. A program committee was selected for the year and included, Mrs. Gordon Teall, Mrs. R. Wyatt, and Mrs. J. L. McEwen. Thirty-one girl scouts gave a demonstration under the direction of Mrs. E. K. Lawrence.

Neosho County Medical Auxiliary was organized at a joint meeting with the medical society on September 25. Mrs. M. O. Nyberg, state auxiliary president, gave a talk concerning the meeting held in Atlantic City last spring and helped with the arrangements for the new organization. Mrs. E. C. Duncan was presiding chairman of the auxiliary meeting.

The members of the executive board of the Sedgwick County Medical Auxiliary held their first meeting for the year on October 8 in Wichita. Mrs. M. O. Nyberg, state president of the medical auxiliary, and Mrs. E. J. Nodurft, chairman of the southwestern district, are both members of this organization.

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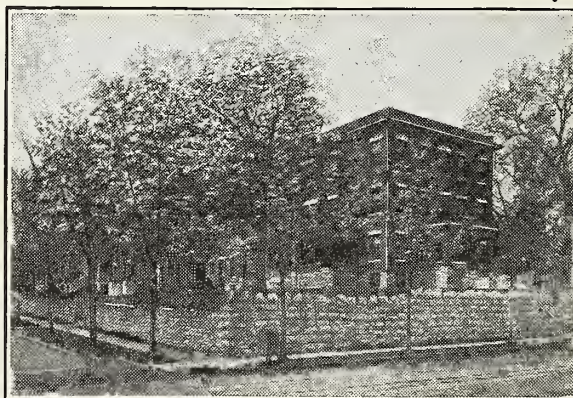
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THE VALUE OF POST-MORTEM EXAMINATIONS TO CLINICAL MEDICINE†

C. ALEXANDER HELLWIG, M.D.*
Wichita, Kansas

The superintendent of Mount Sinai Hospital in New York¹ estimates the cost of a post-mortem examination to be \$92.40. This does not include the time and energy of the people engaged in obtaining permission. The time which a complete and careful autopsy demands, including microscopic, often chemical and bacteriologic examinations, with detailed records, illustrated frequently by photographs, is not less than five hours.

I have often asked myself, whether the knowledge gained from a routine clinical autopsy is really worth the time, energy and money expended.

Everybody knows that medical schools need a large number of autopsies for the teaching of students and for investigation. But how about general hospitals as we have them in our city? Why does the American Medical Association regard the percentage of autopsies as an index of the efficiency of a hospital? In order to be approved for training interns, every hospital must have autopsies performed upon at least fifteen per cent of its deaths. Is it only to live up to these requirements, that our voluntary hospitals should expend such a huge amount of energy?

During the last twenty years, 351 articles have been written on autopsies. The authors are, in the order of frequency, pathologists, physicians, both general practitioners and specialists, hospital superintendents, interns, a few undertakers and one rabbi. The basic question of whether autopsies are at all desirable is quite naturally affirmed by all but one

of the contributors; the dissenting voice coming from an anonymous editorial writer of an undertaker's journal in Chicago. The training of interns, the post-graduate education of the practicing physicians, the advance of medical knowledge and the establishing of true causes of death and hence placing vital statistics on a sound basis are quoted as the main arguments in favor of autopsies.

Of these 351 papers, a single one stands out by its frankness and fearlessness, namely Cabot's² article entitled: "Diagnostic pitfalls identified during a study of 3,000 autopsies." Written in 1912, it pointed out in a very striking manner the large factor of error in a list of twenty-eight special diseases. While it caused resentment on the part of certain clinicians, in many others it served to stimulate greater precision in diagnosis. Admitting that the man behind the gun, or the method, makes a vast difference, Cabot concludes from his study of 3,000 cases before and after death, that few of the mistakes could have been avoided and that his figures mirror the diagnostic methods and its limitations of an average American hospital at this time.

Since 1912, wonderful advances have been made through investigations by immunologists and biochemists. Most of these results have been standardized and made available to the physician to supplement the art of history taking and physical diagnosis. Clinical pathology as a new specialty has been established in these last twenty years and already warning voices arise that the practitioner places too much reliance on laboratory reports and that he attributes to them an infallibility with which no pathologist would credit them.

I have made a comparative study of clinical and anatomical diagnoses, certainly not to belittle the clinician's diagnostic ability. For seven years, I was a clinician myself and have often resented the bitter and destructive criti-

†Presented at the November 6th, 1935 meeting of the Sedgwick County Medical Society.

*Department of Pathology, St. Francis Hospital, Wichita, Kansas.

cism all too frequently exhibited at the autopsy table. I felt at these occasions and still do, that the pathologist is not doing a very wonderful thing in pulling out a pneumonic lung and making a diagnosis of pneumonia, or if he finds an unrecognized surgical condition existing in the abdomen, that to make such a postmortem diagnosis, certainly does not require skill.

The only reason why I undertook such a tedious task of going over clinical and autopsy records, was to satisfy my own mind and try to answer the following two questions: (1) Have clinical laboratories proved to be of decided help to the physician, i.e. is the percentage of correct clinical diagnoses as checked by post-mortem findings really better today than it was in 1912.

(2) Have the scientific results in the fields of biochemistry and immunology and their daily application in the modern laboratory improved our diagnostic ability so markedly that we can discard or at least restrict the expensive, cumbersome and often unpleasant method of dead-house pathology.

My series is too small to permit of the same division as made by Cabot and still reach satisfactory percentages. I have followed Karsner's³ principle of classifying by organs and systems rather than by diseases. His division into gross and minor diagnostic errors was however omitted because I was more interested in the chances of correct diagnoses. My 550 cases were divided into three groups: Agreement of clinical and anatomical diagnosis, partial agreement and disagreement.

Two points I would like to stress. (1) In this country, autopsies are made principally on doubtful and very difficult cases. Therefore, the accuracy of ante-mortem diagnoses, in general, is without doubt considerably better than these statistics would indicate. (2) It should be stated that the post-mortem pathologist, contrary to the usual idea and his own early assumption is not infallible. Not only is his interpretation liable to be faulty, but he cannot find what is not there to be found. Not every perversion of function is accompanied by visible changes. Chemistry often comes to our aid and serology may reveal facts when the anatomical method fails. I must confess that some small children die from causes which remain to me a complete mystery even after the autopsy. In 1.4 per cent of my cases, a complete explanation of the cause of death was

missing. Still post-mortem diagnosis is vastly more accurate than the clinician is entitled to expect for himself, for the simple reason that he has to make his diagnosis through layers of skin, fat and other structures.

TABLE I
COMPARISON OF CLINICAL AND ANATOMICAL
DIAGNOSIS IN 550 CASES

	No. Cases	A	P	D	?	A (%)
Head and Brain.....	96	63	11	13	9	65.5%
Neck.....	12	5	2	5		41.7%
Thorax.....	164	75	25	34	30	45.8%
Abdomen.....	188	131	30	23	4	64.8%
General Infections.....	57	33	1	20	3	59.7%
Constitutional Diseases.....	33	27		6		81.8%
TOTAL.....	550	334	69	101	46	
PERCENTAGE.....		60.7	12.6	18.4	8.3	

A—Complete Agreement of clinical and anatomical diagnosis.

P—Partial Agreement.

D—Disagreement.

?—No clinical diagnosis.

A—Percentage of Complete Agreement.

TABLE II
Percentage of correct clinical diagnoses in 1912 (Cabot)
and in 1935

	1912:	1935:
Head and Brain.....	70	73.3 per cent
Heart and Pericardium.....	55.1	68.2
Lungs and Pleura.....	55.3	78.5
Liver and Biliary Tract.....	29.5	59.1
Gastro-intestinal Tract.....	68.5	74.4
Urinary Tract.....	43.3	77.6

A comparison of Cabot's and our figures show complete agreement at the successful and the unsuccessful end of the list of diagnoses. Diseases which kill so quickly that the period of observation is very brief, will always show a large percentage of diagnostic failure. At the successful end of the list stand today as in 1912 diseases which are easily recognized by the routine application of laboratory methods.

Diseases listed between these two extremes, show in our series a definite improvement in the percentage of correct clinical diagnoses as compared with the possibilities in 1912. Nevertheless our figures indicate that diagnostic precision has by no means attained the ideal of accuracy. It is discouraging to see that Wilson's⁴ statement made in 1915 still holds today, namely that clinical diagnoses in cancer are correct in only about three-fourths of the cases and in tuberculosis in less than one-half. Sixty-eight per cent, our percentage of correct diagnoses in cardio-vascular diseases, is however definitely superior to the figures for 1915 when less than forty per cent could be diagnosed correctly before death.

Without exact clinical diagnosis, the

physician is a mere empiricist groping in the dark. Clinical medicine is ever striving toward improvement of diagnostic methods. The surest criterion of such improvement is to be found in the autopsy.

That modern surgery is based on pathology, nobody will deny. On the other hand, pathology owes much to surgery. "Pathology of the living" as Moynihan⁵ has termed the gross and microscopic study of disease processes in the operating room, has given fresh impetus to the study of morbid anatomy. In every surgical periodical, we find noteworthy contributions to pathology written by men who before taking up surgery were assistants in pathological institutes as it is the rule in Germany.

The question presents itself, whether modern surgical pathology has not made dead-house pathology obsolete. I quote Wilson⁶ who as pathologist to the Mayo Clinic, certainly cannot be accused of prejudice against surgery: "The surgeon's judgment at the operating table is ripened more by his errors than by his successes, providing he is willing to study his errors post-mortem in detail, unpleasant though it may be. Autopsies made as a routine on the early postoperative deaths occurring in the practice of any good surgeon will show important factors in the cause of death unknown to the surgeon in more than half of the cases." In our series of twenty-seven postoperative autopsies which were performed mainly on doubtful cases, the percentage of unknown factors was much higher, namely 74.1 per cent.

There cannot be any doubt that the best way for physician and surgeon to perfect his efficiency is by evaluating his diagnoses and the results of his treatment at the autopsies of those of his patients who had the misfortune to die. The need of experienced physicians is unquestionably of great importance to public health. What have public health authorities in this country done to secure for the people the undisputed benefits of autopsies? Not one thing. Whatever laws there are, are directed against autopsies and not in favor of them.

As things are today, the only way to obtain autopsies is by approaching the relatives at a most inopportune time. Usually autopsies are asked for as a favor to the physician and rarely offered as a favor to the relatives.

The one argument which, according to Wilson, appeals most to intelligent men is that they ought to know exactly not only the cause of death, but also the incidental diseases of

every member of their families. If there be a heritable disease, it should be known. Or it may be that the fatal disease was due to some habit of life which can be avoided by the survivors. If we can make the relative understand the value of post-mortem examinations to his own family, his ignorance of the importance of the autopsy to science, the existence of inadequate laws and the objections of undertakers will all become negligible and he will not only permit, but insist on an autopsy.

"The time has passed when the medical man can hide behind a cloak of priestly authority. He is a human being with all human fallibility engaged in a field of biologic science involving the most intricate living material." (Karsner⁷).

CONCLUSIONS

In 550 cases studied before and after death, there was agreement between clinical and anatomical diagnosis in 60.7 per cent, partial agreement in 12.6 per cent and disagreement in 26.7 per cent.

Our figures show a definite improvement in the percentage of correct clinical diagnoses as compared with the possibilities in 1912. The accuracy in diagnosis of cancer, tuberculosis and syphilis has less improved than that of cardiovascular diseases. In 74.1 per cent of early postoperative deaths, the autopsy revealed important factors in the cause of death unknown to the surgeon.

In spite of great advances in the fields of immunology and biochemistry and in spite of marked progress in surgical pathology, post-mortem examination is still today of greatest value to clinical medicine. As criterion for evaluating diagnostic success or failure, the autopsy is unsurpassed by any other scientific method.

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If there be a calling which feels its position and its dignity to lie in abstaining from controversy and in cultivating kindly feelings with men of all opinions, it is the medical profession.—Cardinal Newman.

DIVERTICULOSIS AND DIVERTICULITIS OF THE COLON

C. C. UNDERWOOD, M.D.*

Cleveland, Ohio

CASE REPORT

The patient was a white man fifty years of age who entered the clinic January 4, 1935 complaining that he had recurrent attacks of cramp-like pain in the lower left quadrant of the abdomen and that he had to take bile salts daily. The patient was perfectly well until the age of thirty when he had a perforated peptic ulcer without previous gastric symptoms. He was operated upon immediately and made an uneventful recovery except for drainage. A few weeks later a right inguinal herniorrhaphy was performed. Since that time—a period of twenty years—he has had occasional distress in the lower left quadrant of the abdomen associated with lots of gas, which was always relieved by bowel movement or passing flatus. However, he suffered no severe pain until three months prior to admission when he was awakened at night with rhythmic cramp-like pains in the lower left quadrant of the abdomen, associated with audible rumbling of gas and abdominal distension. The following day the temperature rose to 102 degrees F. and remained there for three days, during which time he was confined to bed with almost complete obstipation. On the third day, his bladder became distended and catheterization was necessary. There had been no previous dysuria, and since this attack he was able to void without difficulty; however, he was given prostatic massage daily for a few days. Since this severe attack he continued to have pain in the left iliac fossa and in the left flank, which was always relieved by bowel movement or expelling gas. He had found it necessary to take bile salts daily and had noticed that the stools were small in calibre. A roentgen examination was made a short time before our examination and a diagnosis of carcinoma of the colon (sigmoid) had been made.

When we saw the patient, physical examination showed a well nourished man who did not appear ill. He was sixty-four inches tall and weighed 139 pounds. His temperature was 98.6 degrees F., pulse 76, blood pressure 130 systolic and 90 diastolic. The eyes were normal, the pupils reacted equally to light and

accommodation. The teeth were in good repair, and there was no adenopathy. The lungs and the heart were negative. The abdomen was not distended. Two right rectus and one right inguinal scars were present. There was no tenderness, rigidity, hyperperistalsis, palpable organs or masses. Rectal examination was negative, the prostate was slightly tender but not enlarged. The neurological findings were normal. The impression of the examiner was diverticulitis of the sigmoid with probable abscess which had formed at the time of the acute attack of pain three months before the patient came to the Clinic.

Because of the history of obstruction, it was thought wise to proceed with a barium enema first and this showed rather extensive diverticulosis of the lower descending and sigmoid colon, and since there was no evidence of obstruction, studies were made following a barium meal by Dr. Collins who reported a small deformity at the tip of the duodenal bulb probably at the site of the plication for ruptured ulcer in 1914. There was no evidence of activity. The stomach was found to be normal and the gall bladder functioned normally with the cholecystographic dye and showed no evidence of stones. The red blood cells numbered 5,160,000, hemoglobin was 111 per cent and the white cells numbered 6,350. Blood sugar was 101 mg. per 100 cc. fasting and the complement fixation test was negative. Examination of the urine showed no abnormalities.

The patient volunteered the information that his lower abdominal discomfort was relieved almost immediately by the barium enema and that he continued to feel better for two or three days. This interesting observation has been noted by many physicians and has been one effective method of treatment.

The patient was advised to continue on a smooth diet and was given barium sulphate drams one four times per day and to use mineral oil or enemata when necessary rather than laxatives. Starvation was recommended should acute symptoms recur. He was seen three months after his examination at which time he reported that he was feeling perfectly well.

This report illustrates the fact that diverticulosis of the colon may be missed immediately after or during an attack of diverticulitis because either the stomata of the diverticula are occluded by the inflammation or the sacculations are filled with fecal material or exudate.

*Cleveland Clinic, Cleveland, Ohio

Diverticulum is the term applied to a sacular outpouching which may occur in any of the hollow viscera.

Diverticula occurring in the colon were perhaps first described by Cruveillier in 1849, and subsequently by Virchow in 1853, who gave a minute description of peridiverticulitis, to which he referred as a chronic adhesive peritonitis. In 1857 Habershon, a physician, published the first account of diverticulitis written in English. In 1858 Sydney Jones reported a case of acute diverticulitis of the sigmoid which resulted in a vesico-colic fistula. In 1904 Edwin Beer presented a most comprehensive consideration of the etiology and pathology of diverticula of the colon. In 1907 Moynihan's classical paper on the mimicry of diverticulitis of carcinoma appeared, and during the same year W. J. Mayo reported five cases in which a portion of the sigmoid was resected for obstructive diverticulitis with formation of palpable tumor, the first instances recorded in which an actual demonstration of the pathological change in diverticulitis was made during the life of the patient. These descriptions of the clinical manifestations of the disease and its pathology brought forth a rapid succession of contributions by Hartwell and Cecil, Telling, Mummery, Watson Judd and Pollock, Erdman, Rankin and Brown, Edwards Synnot, Hunt and many others. Regardless of the voluminous literature on the subject the medical profession is not adequately informed in regard to its importance as a pathological entity. This statement is proved by the fact that so few cases are diagnosed before being referred for operation or x-ray examination.

Buschi stated that diverticula occur most frequently in the colon, next the ilium, esophagus, pharynx, duodenum and least frequently in the stomach. Diverticula may either be (1) congenital or true, or (2) acquired or false. In the true diverticulum all the layers of the bowel are included in the wall of the sac. In the acquired type the walls of the pouch consist only of mucosa, submucosa and peritoneum. It is a true hernia of the mucosa and submucosa through the muscularis, as the latter terminates abruptly on each side of the mouth of the diverticulum and is absent from its wall. Because of absence of peristalsis in the diverticulum any infected material entering the pouch may be retained and cause diverticulitis.

The chief etiological factor is still a controversial subject, but the most widely ac-

cepted theory predicates some congenital anomaly or weakness in the muscularis of the colon, frequently where the blood vessels come through the bowel wall from the mesentery. The fact that cases of diverticulitis occur in unusually healthy individuals who give no history of previous abdominal discomfort or constipation seems to confirm this belief. It would seem however that there must be contributing factors because diverticula of the acquired variety are rarely recognized in individuals under fifty years of age. Such additional factors may be constipation, atrophy from chronic intestinal toxemia or senile deterioration as a result of which certain strands in the muscularis of colon where there is perhaps congenital weakness finally give way and sacculations result.

Diverticula high in the gastric-intestinal tract and in the right side of the colon may be present for years without giving rise to trouble because the bowel contents here are fluid or semifluid. In the colon or especially in the left colon, the condition is different—the contents lose their semifluid character because of stagnation and absorption of water. Thus impaction occurs in the saccular lumina of the diverticula and because of the absence of the muscular coat in the walls of the diverticula, the contents cannot be expelled through the bottle neck stomata into the bowel. This makes it easy to understand why diverticulitis results.

The frequency of diverticulosis is difficult to estimate: Rankin and Brown of the Mayo Clinic reported 1,398 cases of diverticulosis that were discovered in 24,620 examinations of the colon by x-ray, an incidence of 5.67 per cent. One hundred eleven cases of diverticula of the colon were found in 1925 necropsies performed at the Mayo Clinic during the years 1924-1928—an incidence of 5.2 per cent. The actual occurrence for all ages was placed at less than one per cent by these authors as estimated from the finding of 2,310 cases of diverticula of the colon in the course of 765,795 examinations.

An analysis of 157 roentgen diagnoses of diverticulosis of the colon made during the past four years at the Cleveland Clinic shows that 68.9 per cent occurred in patients between the ages of fifty and sixty-nine. The youngest patient was thirty-six and the oldest eighty-one. There were seventy-six women and eighty-one men, so from this we would con-

clude that sex has very little to do with the incidence of diverticulosis. Obesity was present in sixty-five per cent of the cases, twenty-three per cent were of normal stature and twelve per cent were slended.

The sites of the diverticula in our series were as follows: Sigmoid, 104; descending colon, 27; transverse colon, 13; ascending colon, 6; generalized throughout the colon, 17; and the cecum, 2. There were thirty-nine cases of diverticulitis, twenty in men and nineteen in women, an incidence of twenty-five per cent in this series which is high in comparison to previously reported series—the incidence in the Mayo Clinic series of 1398 cases being seventeen per cent and in Edwards series the incidence was 14.6 per cent. However, it is sometimes difficult to be certain whether the patient has diverticulitis or not, and one must remember that many of the cases of diverticulosis are potentially cases of diverticulitis so that the incidence may be higher in the clinics where patients are followed for a longer period of time.

Diverticula of the colon are sometimes associated with diverticula elsewhere in the gastrointestinal tract, especially in the duodenum. There has been considerable discussion relative to the frequent association of bladder diverticulum and diverticulosis of the colon. Cystoscopic examination was made in only eighteen of the 157 patients here reviewed and in only one instance was a solitary diverticulum of the bladder found. However, Dr. Graham showed two cases this year at pathological conference in which bladder diverticulum was associated with diverticulosis of the colon and duodenum (in which vesical, colon and duodenal diverticula were found at necropsy.)

Obstruction developed in six of the thirty-nine cases of diverticulitis and five were operated upon here. Complete resection of the involved area without previous colostomy was performed in one case and a fecal fistula developed which healed spontaneously. Preliminary colostomy was performed in two cases which were closed subsequently because the obstruction disappeared after the inflammation subsided and resection was unnecessary. Two other patients had preliminary colostomy with subsequent resection of the sigmoid. The sixth patient died five days after discharge without operation. Abscesses developed in three cases but only one had to be drained surgically. Enterovesical fistula was suspected in one

patient because of the complaint of pneumaturia, but cystoscopic examination showed no evidence of fistula.

In 140 of the 157 cases, there were symptoms that in all probability were related to the colon. The most constant symptom was constipation which was present in ninety-four cases, in nineteen of which diarrhea alternated with constipation. Diarrhea is usually significant of obstruction, but not always because attacks of diarrhea sometimes coincide with and are due to recurrent attacks of inflammation. Seventy-eight patients had pain which varied in character—in some it was a dull ache and in others it came in attacks of colic. Sometimes it was initiated by defecation, passing flatus or taking an enema, and others were relieved by bowel movement. In twenty-eight of the seventy-eight patients, the pain was in the upper left abdomen, it occurred in the left iliac fossa in sixteen, in the epigastrium in sixteen, and in ten the pain was on the right side. Eight patients had pain only when taking an enema. The site of the pain did not always coincide with the segment of the colon most affected by the diverticulosis as indicated by the x-ray examination.

Several patients had no actual pain but complained of vague disturbances in the left side of the abdomen, rumbling noises and windy spasms, flatulence, soreness and fullness of the stomach. These symptoms were more noticeable during defecation or when more than ordinary constipation was present.

It is quite evident from this large group of symptoms that no single symptom, physical sign or laboratory finding is pathognomonic of diverticulosis or diverticulitis of the colon, with the possible exception of the visualization of the diverticula through the sigmoidoscope. On the other hand, if one gathers together all the data afforded by the various diagnostic measures and carefully correlates them with the history and physical findings it is usually not difficult to arrive at the correct diagnosis. Without doubt, the most important single procedure is the x-ray examination of the colon, both after barium meal and barium enema, the latter sometimes being supplemented by air injection. In our series of thirty-nine cases of diverticulitis of the colon, nine were diagnosed clinically. The most important fact to bear in mind is that whenever any patient complains of changes in bowel function, he deserves a careful and painstaking examination including

proctoscopic and stool examinations to rule out the presence of any organic lesion. Proctoscopic examination was made in only eight of the 157 cases of diverticulosis here reported and a diagnosis of diverticulitis was made in one case; however the examiner did not mention whether or not a diverticulum was visualized.

Surgical treatment must always be considered when symptoms of acute diverticulitis are present, especially when the diagnosis is questioned. Surgical judgment has changed considerably since Erdman stated "The acute condition presents but one solution in the absence of contraindications and that is early operation." Experience has shown that perforation with general contamination occurs but rarely, and that when perforation does occur, it is usually a protective one wherein the omentum and appendices epiploical tend to localize the process to the wall of the bowel in which resolution frequently occurs as in the case reported this evening. If the process goes on to abscess formation drainage of course becomes necessary.

In the chronic complicated cases, surgery is definitely indicated; spontaneous and post-operative fecal fistula sometimes must be operated upon; enterovesical, and enterocolic fistula usually require radical procedures. For obstructive diverticulitis, the multiple stage Mikulicz procedure may at times be accomplished with a fair degree of safety, however it usually is better to do a preliminary colostomy or cecostomy, the value of the latter cannot be too strongly emphasized according to Hunt. The Mikulicz procedure may be regarded as the only exception to preliminary drainage. To be specific in the obstructive type of diverticulitis, the type of resection of the sigmoid frequently used for carcinoma should never be used unless a previously made and functioning colostomy exists. Postoperative distension of colon after any operation for obstructive diverticulitis in the presence of diverticula proximal to resection materially increases the danger of acute perforation of one or more of these diverticuli.

Medical treatment of diverticulosis is of about as little importance as are the findings of these little sacculations when they are asymptomatic. The presence of diverticula in the colon in the absence of symptoms is of no more significance than the visualized appendix vermiformis without symptoms. Inasmuch as constipation often is associated with moderate or extensive diverticulosis of the sigmoid and perhaps is a

factor in the production of diverticulitis, anti-constipation regimen including bland diet and the use of mild oils is advisable. Equal parts of barium sulphate and calcium carbonate have proved efficacious in the relief of symptoms. Should mild symptoms of diverticulitis occur, continued regulation of the bowels, with external application of heat and the use of bowel antispasmodics usually suffices. Saline irrigations are sometimes useful.

CONCLUSIONS

1. Diverticulosis is quite prevalent occurring in about five per cent of persons who have symptoms referable to the colon, but in one per cent of all persons.

2. Diverticulitis occurs in from seventeen to twenty-five per cent of cases of diverticulosis and in most instances is chronic and subject to exacerbations.

3. The etiology of diverticula is obscure but they probably are due to inherent muscular weakness in the bowel wall plus environmental conditions, obesity and constipation.

4. Diverticulitis probably results from improper emptying of the diverticula with subsequent inflammatory reaction, necrosis and occasional perforation.

5. The relation of carcinoma to diverticulitis is probably incidental rather than actual. In 227 cases at the Mayo Clinic, malignancy was present in four and carcinoma was associated in two of 157 cases here at the Cleveland Clinic.

6. The outstanding symptom of diverticulitis is pain, usually in the lower left portion of the abdomen and it is frequently associated with constipation. Change in bowel habit is a confusing factor.

7. A palpable tumor is commonly found in obstructive diverticulitis which often confuse it with malignancy.

8. Bleeding rarely occurs with diverticulitis—when it does occur, an associated malignancy is usually suspected but frequently not found.

9. In a definite percentage of cases, diverticulitis tends to become complicated. The most common complications are abscess, obstruction, fistula and perforation.

10. Treatment of acute diverticulitis consists of watchful waiting while the patient is at rest in bed. Sometimes warm saline irrigations are of benefit. Starvation often is necessary during the acute attack. As process subsides anticonstipation diet and the use of small doses

of mineral oil together with x-ray, barium sulphate, probably prevents complications.

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UNUSUAL CONDITIONS AFFECTING THE KNEE JOINT

O. R. BRITTAIN, M.D.

Salina, Kansas

From a consideration of the structure of the knee joint, it would at first sight appear to be one of the least secure of any of the joints of the body. It is formed between the two longest bones, and therefore the amount of leverage that can be brought to bear upon it is considerable. The articular surfaces are but ill adapted to each other, and the range and variety of motion which it enjoys is great. All these circumstances tend to render the articulation very insecure; but nevertheless, on account of the very powerful ligaments which bind the bones together, the joint is one of the strongest in the body, and dislocation without accompanying disease is seldom found.

However the factors competent to resist luxation are not able to protect it from minor injuries. Disease or injury of the knee joint is of frequent occurrence, on account of its superficial position, its exposure to cold and wet, and its liability to minor injuries. A disability of this joint is of major concern because of the important functions of the joint in weight bearing and in walking.

The conditions which claim our attention at this time, most of which are of uncommon occurrence, appear at rare intervals in the regular radiological examinations of the knee, and may be designated as follows: Fracture of the spine of the tibia; loose bodies in the joint; myositis ossificans; rickets; bone tumors; Pellegrini-Stieda's disease; Osgood-Schlatter's disease.

Fracture of the spine of the tibia was known only as a complication of dislocation of the knee previous to the introduction of the use of the x-ray. It is usually the result of violence to the external surface of the leg, causing pressure of the condyle against the spine of the tibia. The x-ray will reveal the line of fracture clearly marked.

Since the injury does not cause complete disability it is well to remember that final recovery may not take place as soon as might be expected from the relative minor injury in evidence on the external surface of the knee. The complete process of bone repair must take place before final recovery.

Loose bodies are sometimes found in the joint cavity. About ninety per cent of all instances of loose bodies in a joint, occur in the knee. They are sometimes free, or less frequently attached to a pedicle. They are developed in several ways, (1) from villous outgrowths from the synovial membrane, (2) from detached osteophytes of osteo-arthritis, (3) from outgrowths of the articular cartilage, and (4) from a number of quite rare conditions, such as organization of a blood clot or from fibrin accumulation.

A knee joint including these bodies may function practically normally except at intervals when the body is caught in a narrow space in the joint, at which time the patient feels a sudden intense and very sickening pain in the joint, with complete loss of function. After a few days the disability ceases, only to have the process repeated at a further time.

Myositis ossificans may develop in a muscle near the joint. It is an ossifying process occurring in muscle or fibrous tissue, and lies near the surface of the bone or apparently in contact with it. In this case it must be differentiated from a new growth of the bone itself. It may also simulate a loose body, but myositis in the vicinity of the joint must be found always adjoining the joint proper, while loose bodies will be found in the cavity of the joint.

Rickets, a one time common disease, is now not seen nearly as frequently as in the past, due to the improved methods of care and feeding children at the present time. The widened flattened diaphysis at the upper end of the tibia with the usual curving of the shaft are characteristic.

The region of the knee joint presents numerous forms of bone tumors, exostoses, osteoma, osteochondroma, giant cell tumor and

sarcoma being among the more common forms.

Osteomyelitis involving one of the long bones entering the joint, more particularly the upper end of the tibia, is referred to, not because of its rarity, but because of the importance of differentiating the disease from other affections of the joint proper. Though osteomyelitis on superficial examination appears to involve the entire joint, close scrutiny will disclose the point of greatest pain and tenderness in the end of the long bone and adjacent to the joint itself. Early in the disease the x-ray appearance of the bone is normal, but later the changes resulting from the pathological process become readily visible.

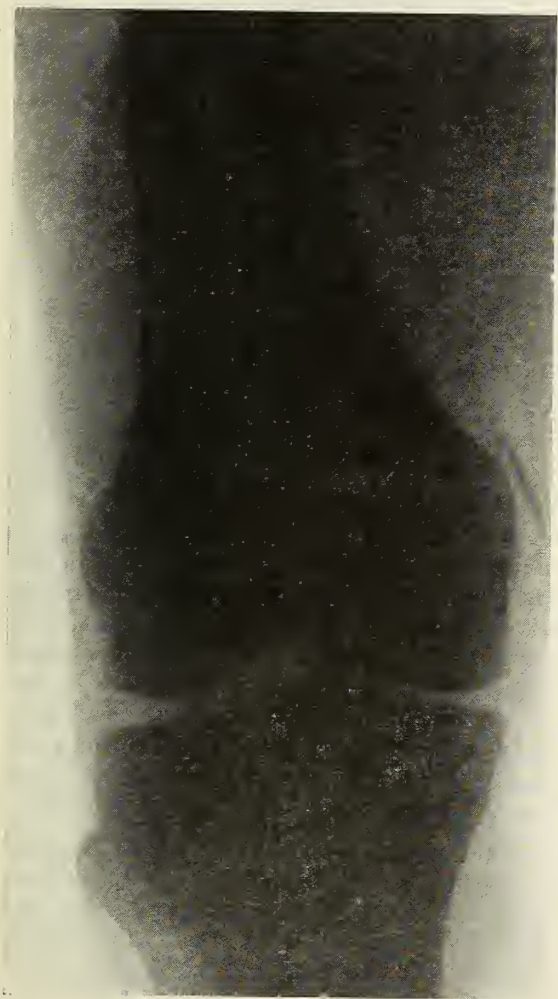


Fig. No. 1. X-ray showing changes in knee joint due to Pellegrini-Stieda's disease

Pellegrini-Stieda's disease is a calcification and ossification of the internal lateral ligament in the region of the medial femoral condyle, the result of trauma. It is of quite rare occurrence,

without pronounced clinical symptoms, and may sometimes be found in routine x-ray examination for other conditions. The x-ray reveals a crescent shaped opaque body with the concavity directed toward the condyle, but separated from the latter by a clear space. Fig. No. 1. The ends are often slender. The sub-patent condyle presents a normal silhouette. Nothing is seen that suggests any deformity of or depression in the internal condyle, such as might occur with an osseous tearing.

The pathogenesis from the trauma to the fully developed process has been the subject of much discussion and numerous hypotheses. Briefly it has been considered as a small detached fragment of the condyle; or a simple calcification such as occurs near other joints; or a process similar to that which takes place in myositis ossificans. It is probable that calcification readily takes place because of the rich blood supply from the anastomotic vascular network, the presence of connective tissue, and the proximity of the condyle, all of which tend to supply abundant material for calcification. Furthermore, periosteal displacement may cause the bone-like tissue found in the new growth.

Examination soon after injury reveals local tenderness to palpation, swelling and limitation of motion. A hematoma may be found. X-ray films are negative at first, but those taken two to four weeks after the injury show the characteristic calcifying area. Subsequent films show increasing density. Within a few days after the injury the pain and swelling subside, but disability and limitation of motion are quite likely to persist for one to two years.

Osgood-Schlatter's disease is of interest because of its rarity and because of some rather fine points of differentiation necessary to distinguish it from other similar affections.

A few cases of this disease have been reported in New York, Boston, and Chicago. In the Cincinnati General Hospital but one case was found in six years. At a recent meeting of the American Roentgen Society in Los Angeles a private laboratory placed on exhibition the films of one case found in that city. However the disease is probably of more frequent occurrence than the records would indicate, since the condition is practically never diagnosed today except with positive x-ray findings, and not all of these cases come for x-ray examination.

Literature descriptive of this condition is quite meager. Rather extensive reports are

given by Osgood and by Schlatter in German, both in 1903, and further description by Bader in 1922, though other writers refer to the disease. It is interesting to note that the first case report was by Dr. Paul Vogt in 1869, which again impels us to admire the diagnostic ability of some of the older practitioners who were without the aid of modern laboratory equipment.

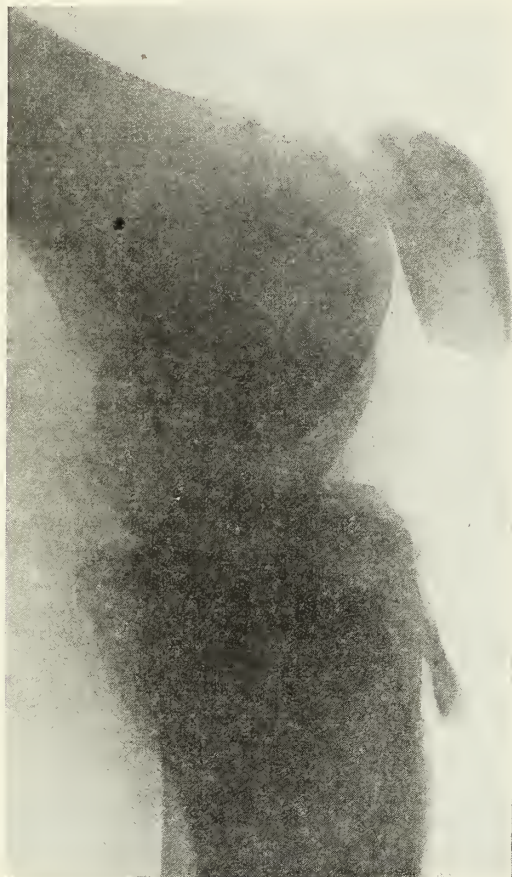


Fig. No. 2. Osgood-Schlatter's disease

Osgood-Schlatter's disease is a non-suppurative, subacute inflammation of the tibial tubercle, believed to be due to trauma incident to repeated pulling of the ligamentum patellae. As might be expected, it is usually found in young people of the athletic type, usually between the ages of ten and sixteen years. The onset is gradual and sudden changes do not occur during the course of the disease. Fig. 2 and 3.

A complete avulsion of a portion of the tibial tubercle may occur from a sudden forcible contraction of the quadriceps extensor. This condition is sometimes classified as Osgood-

Schlatter's disease, and gives a similar appearance in the roentgenogram. However, it could not be considered as a true Osgood-Schlatter's disease.



Fig. No. 3. Showing detached fragment and bone destruction in Osgood-Schlatter's disease

In studying these cases one should keep in mind the anatomy and development of the upper portion of the tibia. The upper end of the tibia develops from one center of ossification which forms the upper articular surface and a tongue-like projection or beak, anteriorly, extending down over the diaphysis. Attached to this tubercle of the tibia is the ligamentum patellae with lateral aponeurotic expansions attached to the shaft of the tibia.

The case here reported is that of a fourteen year boy. On inspection a red tender swelling is found directly over the tubercle of the tibia on the right side. It is of about four months duration. Function is somewhat limited on account of moderate pain when the knee is flexed or forcibly extended. On roentgenological examination we find a portion of the beak of the tibia entirely separated from the main bone. A slight amount of bone destruction is seen immediately beneath the detached fragment. The slight degree and slow

process of this destruction, with absence of suppuration would characterize the process as an erosion rather than a necrosis.

This condition must be differentiated from bursitis with calcification, tuberculosis of the joint, loose cartilage in the joint, and hypertrophic arthritis.

A calcification in the bursae will give a very similar appearance in the roentgenogram. There will however be an entire absence of bone destruction and the disease is most likely to be found in an adult. Tuberculosis may be differentiated from the fact that the process is of a more diffuse nature, occurring near the joint surfaces, often beginning in the synovial membrane. Though it may penetrate the cartilage, it does not generally extend further than the region immediately beneath the cartilage. The swelling of the joint is of greater extent and more diffuse in character. Loose cartilage in the joint will always be found in a higher position than the location of a detached fragment in Osgood-Schlatter's disease. The position also is likely to be variable. In hypertrophic arthritis the deposit is of more general distribution, other parts of the joint being involved.

The condition should not be difficult to recognize if one but remembers that such a disease exists even though it be of rare occurrence.

CHORIOEPITHELIOMA*

WILFRED COX, M.D.

Wichita, Kansas

Chorioepithelioma was first described by Sanger about forty years ago. It is a malignant tumor that develops from the epithelial elements of placental tissue. It most commonly follows the expulsion of a hydatidiform mole, but may date its origin from an abortion or tubal pregnancy or even a normal pregnancy. However, primary chorioepithelioma of the Fallopian tube has been reported and teratoma of the ovary or testicle may develop a chorioepithelioma. The route of metastasis is thought to be through the hypogastric and spermatic veins.

*Read before the Sedgwick County Medical Society, November 19, 1935.



Fig. No. 4 shows the syncytial cells and the cells of Langhans

The clinical picture of different cases of chorioepithelioma varies from a most malignant course to a spontaneous and permanent retrogression. Hitschmann and Christofaleth state that there is no difference between trophoblast (fetal tissue) and chorioepithelioma.

The tumor usually appears first as a nodular excrescence growing from the surface of the uterine canal or from the lumen of the tube. The growth is very vascular, often having the appearance of a hemangioma, and tends to bleeding and necrosis. The metastasis may extend to the vagina, pelvic organs, lungs, brain, liver, kidney, spleen, or bone. Many times the metastatic nodules will disappear when the mother tumor has been removed. There are often numerous corpus luteal cysts of the ovaries associated with either a hydatidiform mole or chorioepithelioma.

Microscopically the tumor is formed by proliferation of cellular elements of the chorionic villi namely the syncytium and the cells of Langhans. The syncytial cells originate from the fetal ectoderm. They are disposed in large protoplasmic masses containing numerous oval

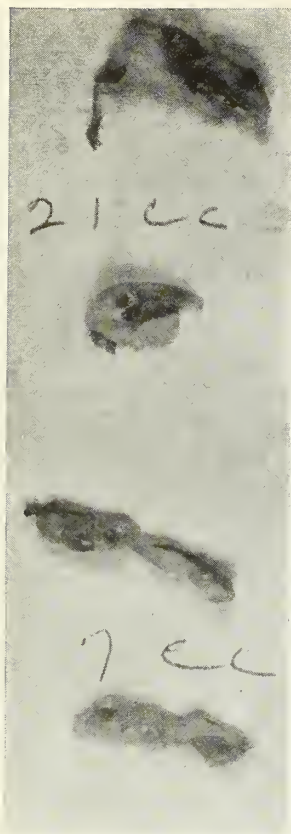


Fig. No. 1 shows ovaries in positive Ascheim Zondek test (Friedman)



Fig. No. 2 and 3 show the chorioepithelioma and the corpus luteal cysts of the ovaries

nuclei. The nuclei are rich in chromatin and are frequently in the process of mitosis. Surrounding these cells is more or less fibrinous tissue containing in its meshes free or coagulated blood, mononuclear cells, leucocytes and cells of the Langhans type. The last named are small and well defined with a clear cytoplasm. The nucleus is small, round and poor in chromatin. Where the Langhans cells predominate there is little disposition to rapid growth and metastasis, however, when the syncytial element is greater, the growth may be exceedingly rapid and lead to an early metastasis.

A positive Ascheim Zondek test two months after chorioepithelioma has been removed indicates the presence of metastases. A negative test rules out the possibility of chorioepithelioma. A quantitative reaction 100,000 rat units or more point to a malignant tumor, however, normal pregnancies have given equally as high test at three months pregnancy. A normal pregnancy is reported positive with $\frac{1}{2}$ cc of urine (Friedman test) a recurrent positive after chorioepithelioma has been removed, means a pregnancy or a metastasis.

The symptoms of a chorioepithelioma are repeated uterine hemorrhage after an abortion or a hydatidiform mole, loss of weight, positive Ascheim Zondek test two months after a hydatidiform mole has been removed. Hertzler states that in fifty per cent of hydatidiform mole, a malignant condition develops.

The treatment of chorioepithelioma is total hysterectomy and x-ray is recommended postoperative. In unoperable cases favorable results have been reported by Keen with the insertion of radium into the uterus and the use of x-ray.

The case I have to report is a white female age thirty-two. There is no family history of tuberculosis, carcinoma or cardio-renal disease. The patient had had one normal pregnancy seven years ago. Nine weeks ago a hydatidiform mole was removed. The patient has continued to flow. Her condition has been good and she has gained weight. Two Ascheim Zondek tests have been run, the last with one-third the normal amount of urine and is still positive.

On physician examination the heart, lungs and abdomen were normal. Urine: Spg.-1014; Albumen, negative; sugar, negative; micro-

scopic-occasional blood cells; W.B.C. 8,000; Hb-78. Inspection of the vagina shows a mild bleeding, not marked. A hysterectomy was done, the tubes, ovaries and the uterus with the exception of the tip of the cervix were removed. There were two hemorrhagic spots on the fundus of the uterus, corpus luteal cysts of the ovaries. There were no adhesions.

The patient made an uneventful recovery. X-ray was suggested but owing to the fact that the patient was feeling good and gained weight was not used. The Ascheim Zondeck test was positive eleven days postoperative and was negative twenty-two days postoperative. The patient has continued to improve and there has been no evidence of metastasis.

CONCLUSION

The Ascheim Zondeck test is an aid in the diagnosis and the prognosis of chorioepithelioma.

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THE THERAPEUTIC EFFECT OF HEAT AS APPLIED WITH THE ELLIOTT TREATMENT REGULATOR

A. J. REVELL, M.D.

Pittsburg, Kansas

The application of heat to relieve pain, diminish swelling and to accelerate healing is as old as the science of medicine. In the translation of the works of Hippocrates we find the following aphorism. "Heat is suppurative, but not in all kinds of sores, but when it is, it furnishes the greatest test of their being free from danger. It softens the skin, makes it thin; removes pain, soothes rigor, convulsions and tetanus. It removes affections of the head and heaviness of it. It is particularly efficacious in fractures of bone, especially of those which have been exposed, and most especially in

wounds of the head, and in mortifications and ulcers from cold; in herpes extensens of the anus, of the privy parts, the womb, the bladder, in all these cases heat is agreeable and brings matters to a crisis; but cold is prejudicial and does mischief."

Since that time we find the application of heat in various and diverse manners for numerous and sundry diseases and symptoms. Heat has been used superficially in the form of moist and dry heat, and in the past twenty years systemic reactions have been produced with a subsequent rise in temperature by the use of non-specific protein therapy, i.e., intravenous typhoid bacilli and *Plasmodium Malaria* and more recently by diathermy.

Local application of heat has been effected by the use of electric heating pads, hot water bags, hot packs, baths, douches, and recently the Elliott treatment.

Before discussing the *modus operandus* of heat applied to the body, perhaps it would be well to diverge briefly and refresh our memory on the pathological process of inflammation, which may be divided into vascular and tissue changes. The etiological factor of inflammation may be bacterial; mechanical, such as blows or sprains; thermal, burns and frost-bites; chemical, acid or alkalis; or physical, i.e., electrical in nature.

The first factor in the vascular change is a condition of hyperemia as manifested by a rapid and lasting dilatation of the vessels, accompanied by an increase in the rapidity of the blood flow; this increased rapidity of flow lasts for a short while, then the current gradually becomes slower and slower; next, the corpuscles which normally occupy the center of the blood stream begin to drift to the vessel wall.

The second factor in the vascular change, exudation, becomes evident at a very early stage. The leucocytes pass through the vessel walls, especially those of the small veins and capillaries, by ameboid movement into the perivascular tissues where they may die or find their way back into the circulation through the lymphatics; they may exert phagocytic action or become pus cells. The red cells pass through the walls of the capillaries by a process of diapedesis where, once external to the vessel wall, they are broken up and their coloring matter diffused through the tissue, whence, as a rule, it is completely absorbed. The plasma is exuded

through the cell wall into the perivascular tissue. The second phenomenon in inflammation is the tissue changes. The reaction of the tissues in acute bacterial inflammation appears to be dependent entirely on the irritative power of the toxins. If these be potent, death of the tissue results, and necrosis occurs; and if the invading organisms are pyogenic in character, the necrotic mass becomes infiltrated with leucocytes and suppuration follows. When the inflammatory mass is non-bacterial in character, there is frequently much effusion of fluid, and at first but little cellular exudation, whilst the process is distinctly limited and has no tendency to spread; therefore, the most common termination is resolution.

The local clinical signs and symptoms of inflammation and their causes are as follows: Heat, due to the increased amount of blood flowing through the inflamed part. Redness, due to a hyperemic condition of the inflamed part. Swelling arises from hyperemia, and exudation and pain results from the mechanical irritation of the peripheral nerve endings, both by the increased arterial tension and by the pressure of the exudate.

As this paper is devoted to the Elliott treatment we must answer this question: How does the application of topical heat alleviate the signs and symptoms of inflammation resultant from certain pathological conditions?

We think this is brought about by the following mechanism: First, the actual penetration of the heat through the tissues with its action on the causative organism and its soothing effect on the nerve endings. It is an accepted fact that the most valuable agency for the destruction of bacteria is heat. Vegetative organisms being killed in a moist condition at 55 degrees to 60 degrees C. in ten to fifteen minutes. The *Gonococcus* is dead after exposure to a heat of 50 degrees C. for ten minutes, while at room temperature it may remain alive for two to three days. *B. Coli* will not withstand 55 degrees C. for one-half hour. *Streptococci* being killed by 65 degrees C. in two hours and 70 degrees C. one hour. The statement that topical heat does penetrate into the tissues can be substantiated by the experiments of Macleod and Taylor, who report experiments with rabbits using thermocouples buried in the flesh. They report that the heat applied to the abdomen about 25 degrees F. more than the skin surface causes temperature changes to be recorded three inches below. We

have found in our cases that there is a distinct rise in body temperature as evidenced by the taking of temperatures per os before and after a sixty minute treatment. A rise in temperature of 1 degree to 1.3 degrees is the usual result.

In the female taking vaginal treatments, the rectal temperature has been taken immediately prior to, during and after a sixty minute treatment, and we have determined a distinct rise in temperature of 1 degree to 3 degrees F.

Secondly, we believe, inasmuch as heat is one of the etiological factors in the production of inflammation, that the inflammatory reaction is augmented at the original site by penetration of the heat through the tissue, and also an inflammatory area is produced at the site of the application of the heat. Each of the elements in the inflammatory reaction is of benefit to the patient in combating a colony of bacteria. The acceleration of the blood flow serves in the first place to dilute and remove the toxin; furthermore, the increased supply of blood must serve to keep the nutrition of the tissues at its highest level so that if possible they may be preserved alive in spite of the action of the toxin. If the blood contains antibodies, these will be brought in large amounts to the region where they are required. The retardation of the blood enables the white cells to migrate to the infected area and utilize their phagocytic power. The local application of heat proves an excellent means of securing arterial dilatation and acceleration of the circulation superficially; lymph circulation is materially increased superficially and deeply; therefore, this augmented lymph circulation has for its direct effect the washing out of the tissues, an accelerated resorption, a more thorough cell nutrition and a reduction of the infiltration.

The Elliott treatment furnishes a means of introducing and maintaining in the vagina, urethra (male) and other body cavities, constant dry heat at any desired temperature and pressure, distributing its hyperemic effects directly and evenly to the entire cavity and adjacent structures.

The treatment permits, without necrosis, the comfortable use of temperature heretofore unknown, namely 130 degrees F.

The treatment is administered by introducing into the particular cavity a specially developed anatomically shaped applicator, made of pure latex rubber, so constructed that it is

evenly distensible. When distended with circulating water, it entirely fills the cavity, is self retaining and radiates dry heat evenly and directly to all surfaces.

The treatment regulator automatically heats and circulates water through the internal distensible applicator at the temperature and pressure which the physician wishes to use. Such temperature and pressure are accurately maintained for any desired period.

In using the treatment the physician knows beyond all question the exact temperature and location of the radiating area, and thus has complete and definite knowledge of the amount of dry heat applied to the surface or structures while he is treating.

Treatment routine in female.

	Temp. at Start	Max. Temp.	Length of Treatment
First treatment	115°	125°-126°	30-40 min.
Second treatment	115°	127°-128°	45 min.
Third treatment	115°-118°	130°	60 min.
Remainder of treatment	118°-120°	130°	60 min.
Average pressure 1½ pounds.			

Number of treatments necessary for various pelvic conditions.

1. G. C. Twenty-six treatments.
2. Amenorrhea. Twenty-six treatments.
3. Salpingitis. Sixteen to thirty treatments.
4. Dysmenorrhea. Three series of seven to ten each.

PROSTATIC TREATMENTS

Bladder and rectum must be emptied before giving treatment.

Treatment routine.

	Temp. at start	Max. Temp.	Length of treatment
First treatment	115°	125°	30-40 min.
Second treatment	115°	127°	45 min.
Third treatment	116°-118°	128°	60 min.
Remainder of treatment	118°-120°	130°	60 min.
Average pressure 2 pounds.			

CASE HISTORIES

Case No. I. Mrs. R. M. Age twenty-four. White, female, married. One child four years old. Since the birth of her child she has had trouble with her menstruation and has had a heavy vaginal discharge. For the past year she has been extremely nervous and irritable with abdominal distress at night. Menstrual periods have been irregular with marked dysmenorrhea and pain and tenderness in the right lower quadrant of abdomen three to four days prior

to beginning of menstruation. Patient has always had marked discomfort during intercourse.

Bimanual examination revealed uterus normal in size and position. There was marked tenderness over right adnexa, but no definite mass could be outlined. Vaginal examination showed a heavy white discharge negative for gonococci.

Patient was given twenty Elliott treatments on consecutive days.

Three months after series of treatments was completed the patient was feeling fine. Abdominal distress was gone. Menstrual periods were regular, dysmenorrhea and pain over right adnexa had vanished. There was no discomfort during intercourse, and nervousness had disappeared.

Case No. II. Mrs. A. S. Age thirty-six. White, female, married, has three children, twelve years, six years and eight months old. Four years ago patient had an acute attack of what was diagnosed pyo-salpingitis. She states she was in a hospital for two weeks in a distant city. She had severe pain in her lower abdomen with high fever, and her abdomen was packed with ice for several days. A laparotomy was recommended, but she refused to submit to the operation. Finally she submitted to a drainage of the abscess through the vagina. Patient felt fairly well until the birth of youngest child, but since that time she has been practically an invalid due to severe pain and tenderness in right lower quadrant of abdomen. At times she has fever and has been confined to bed for several days at a time, necessitating opiates for relief of pain. Patient had been in bed for three days with a temperature of 100 degrees when we first saw her. Bimanual examination revealed uterus in normal position but enlarged and boggy. A distinct mass extremely tender to palpation was outlined in right adnexa. There was a slight vaginal discharge negative for gonococci.

The patient was given a series of thirty-two treatments on consecutive days. At the beginning of the series the patient was brought to our office in an ambulance, but at the end of ten treatments she was improved enough to walk in for the remainder of the treatments. An interesting phenomenon appeared in this case. The patient had been nursing her baby, and after four treatments she brought the baby with her to the office literally covered with large bullous urticarial lesions which disappeared

in a few days when the baby was placed on a formula feeding.

After finishing the series of treatments the patient felt perfectly well and was seen eight months later still feeling fine. The mass was still present although much smaller and no tenderness was elicited upon pressure.

Case No. III. A. H. Male. Age thirty-one. Married, with a history of acute gonorrhea on three occasions, the last time being two years ago in 1933. Each time the patient had acute prostatitis and was hospitalized.

We were called to see this patient and found him in bed apparently very ill. He had had a chill and was complaining of being hot, pain and discomfort in perineum, severe pain and swelling in left epididymus and inability to void. Physical examination revealed temperature 103. Marked left epididymites, digital examination of prostate outlined a large boggy prostate extremely sensitive to palpation. There was a slight urethral discharge containing many gram negative intracellular diplococci. This patient was hospitalized, catheterized, scrotum suspended and covered with ice packs, and ten cc. calcium lacto glutonate was given intravenously daily for four doses. The patient was given two rectal Elliott treatments daily for six days. Following the first treatment he was able to void, and after four treatments his temperature was normal and the perineal discomfort had disappeared. This patient is still receiving treatment for his gonorrheal infection.

Case No. IV. Mrs. I. C. Age nineteen. Housewife. Entered Mount Carmel Hospital per ambulance on June 4, 1935, with temperature 105 degrees. Pulse 136, R. 36. Six days previous to admission she had an obstetrical delivery, and on the fourth day following the delivery she had a severe chill with following increase in temperature. Patient had several chills before admission to hospital. Laboratory check-up upon admission showed albumin 4 + and 4 + pus cells in urine. R.B.C. 3,550,000. Hgb. 70 per cent (Sahli). W.B.C. 15,800 with 88 per cent polymorphonuclears and 12 per cent lymphocytes. Patient was given a 500 cc. blood transfusion immediately. On morning of June 5 patient had a temperature of 107 degrees and she was delirious in afternoon. Ten cc. of metaphan was given intravenously on June 5, and repeated on June 6 and 7.

On June 6 Elliott treatments were started vaginally, and one was given daily until patient

was discharged from hospital on June 23. Patient had two chills on June 6, one on the seventh, one on the eighth, and none after that date. Her temperature fluctuated after beginning the treatment from 104 degrees to 99 degrees in evening preceding discharge from hospital. Patient improved very rapidly clinically and was feeling very well until June 13, when she developed a marked phlebitis of the femoral vein in left leg, which we feel was responsible for the continued fever. Upon discharge from hospital, phlebitis was improving rapidly and patient felt very well.

In presenting this representative group of our series of cases we do not wish to appear over enthusiastic and claim that the Elliott treatment will supersede surgery, medical and endocrine therapy, but we do feel justified in stating, with the results we have obtained in our cases, that in our opinion this treatment has a definite place in modern medical treatment in conjunction with surgical and medical adjuncts. We also feel confident that many cases can be definitely benefited by the Elliott treatment, while heretofore it has been deemed necessary to resort to surgery; and if we can accomplish this in a goodly number of cases, we realize what a great benefit it is to the patient, economically as well as in the danger encountered with any major operation. Secondly, it is felt that this treatment may be utilized advantageously as a preoperative and postoperative measure to insure better and quicker surgical results.

THE EFFECTS OF AMIDOPYRINE AND PHENOBARBITAL ON THE BLOOD CELL COUNT OF WHITE RATS

SLOAN J. WILSON, M.S.*

Wichita, Kansas.

Since the publication of Madison and Squier considerable interest has been shown in the action of amidopyrine and the barbituric acid derivatives as a cause of primary granulocytopenia (agranulocytic angina.) They produced a similar condition in one rabbit out of a series of seventeen animals.

Many articles have appeared including case studies and the results of experimental work.

*The Department of Pharmacology, University of Kansas School of Medicine, Kansas City, Kansas.

In 1935, Kracke and Parker, reviewing the literature, emphasize the importance of amidopyrine in the etiology of this disease. Hoffman, Butt and Hickey reported the production of an initial leucocytosis, followed in a few weeks by a depression of the total white count. They used only amidopyrine and administered the drug to rabbits. Herz states that the reduction of leucocytes is caused by the NH (imido radicle) derived from phenylhydrazine, and that this reduction resembles the effect of phenylhydrazine on the blood stream and on the bone marrow.

Our investigation was undertaken to determine the effect of the administration of amidopyrine, amidopyrine and phenobarbital, and phenobarbital. White rats were used because of the important differences between the blood picture of man and this animal. The normal differential count³ of adult rats is: Lymphocytes eighty per cent, polymorphonuclear neutrophils 18.5 per cent, and polymorphonuclear eosinophiles one to three per cent. The percentage distribution of leucocytes resembles that of agranulocytic angina but there is not a leucopenia.

PROCEDURE

Four series of rats were used with the following medication:

Series I: Four rats, amidopyrine.

Series II: Four rats, amidopyrine and phenobarbital.

Series III: Two rats, phenobarbital.

Series IV: Two rats, control group.

Method of Administration: Normal saline solution of amidopyrine and phenobarbital were given by subcutaneous injections.

Dosage: In the calculation of the dosage the fact was taken into consideration that the metabolism of rats is ten to fourteen times that of man. Amidopyrine 0.05 gm. for each kilogram and phenobarbital 0.15 gm. for each kilogram of body weight were given. Daily injections were made during a period of thirty-eight days. Fresh solutions of the drugs were made each week, 0.5 gm. of amidopyrine in 50 cc. of normal salt solution, and 1.0 gm. of phenobarbital in fifty cc. of normal salt solution. The amounts of amidopyrine used, based on body weight, are ten to fifteen times the average oral dose for man. Phenobarbital was given in doses of approximately one hundred times the average oral dose for man.

Blood Study: Leucocyte, erythrocyte and differential counts were made every six days

on each rat. The blood for the determinations was obtained by section of the end of the tail.

RESULTS

Series I: Amidopyrine.

All of the rats in this series showed an increase in the leucocyte count. A gradual increase from 8,100 to 14,000 leucocytes for each cu. mm. of blood developed in one rat in a period of two weeks. The remaining three rats showed an increase of 2,000 to 3,000 in the total leucocyte count. The counts returned to normal at the end of twenty-eight days. No changes were noted in the erythrocyte count or in the differential count other than the appearance of a few normoblasts on the thirteenth to the thirty-fifth day.

Series II: Amidopyrine and Phenobarbital.

All of the rats in this series showed an increase in the leucocyte count. In one animal the count increased from 6,800 to 18,200 leucocytes for each cu. mm. of blood and the erythrocyte count was reduced from 8,400,000 to 5,260,000 for each cu. mm. of blood. Both of the counts returned to normal at the end of thirty days, and continued unchanged.

In the remaining animals a similar increase appeared in the leucocyte count which ranged from 4,000 to 6,000 for each cu. mm. of blood. There was an average decrease in erythrocytes of 1,000,000 for each cu. mm. The counts returned to normal within twenty-eight to thirty days.

The appearance of a few normoblasts on the thirtieth to the thirty-fifth day, in the differential count, was again observed.

Series III: Phenobarbital.

No changes were produced in the leucocyte, erythrocyte or differential count.

Series IV: Control Group.

No changes in the blood pictures of these rats were observed.

DISCUSSION

Subcutaneous injections of amidopyrine and of phenobarbital were given to white rats. Amidopyrine, and amidopyrine with phenobarbital produced an increase in the leucocyte count. Phenobarbital produced no demonstrable effect upon the blood picture. The leucocyte count in all of the rats returned to normal by the twenty-eighth to thirtieth day.

One rat in the amidopyrine and phenobarbital series developed a rather high leucocyte

PRESIDENT'S PAGE

MEDICAL DEFENSE

To the Members of the Kansas Medical Society:

The Medical Defense Board of the Kansas Medical Society had its inception in 1911, during the presidency of Dr. O. P. Davis. The late Dr. W. E. McVey was the first Chairman of the Board, serving in that capacity until he was elected editor of the Journal in 1914. Dr. Davis succeeded him as Chairman of the Board, and he has served continuously since that time—over twenty-one years.

The Medical Defense Board is composed of three members of the Council, one member being elected each year for a term of three years. The Board elects its own chairman. It is the duty of the Board to investigate all claims of malpractice made against the members of the Kansas Medical Society and, if found to be proper cases for defense, prosecute such cases to the end, and pay all costs of the defense. It also has the power to employ the counsel for the defense. The Board has always selected eminent attorneys, and at present it is represented by the Hon. J. D. M. Hamilton, one of the outstanding members of the legal fraternity.

The 1935 report of the treasurer of the Kansas Medical Society showed a balance of \$12,393.18 in the Defense Fund, and many of the members considered this an unnecessarily large reserve. So in view of the fact that the previous House of Delegates had raised the annual dues from \$7.00 to \$10.00 because of the new administrative program, Dr. Davis proposed a plan which would lighten the burden on the members, and accordingly offered an amendment to the constitution whereby the \$2.00 annual assessment for defense would be suspended, and all costs for defense be drawn from this reserve until the fund is reduced to \$5,000.00. The expenditures during these twenty years have averaged \$1,525.41 yearly. Estimating on that basis it will require about four years to reduce the fund to the minimum. During that time no assessment will be required. No doubt this consideration is highly appreciated by the members throughout the state.

The Medical Defense is one of the most important activities of the Kansas Medical Society,

and should be recognized as such for the benefits it yields in time of need. No physician, no matter what his standing may be, is exempt from a malpractice suit. The usual lawyers who accept these cases have no respect for persons, and their chief concern is whether the doctor's financial standing is such as to make the suit worth while.

And very often it is the case with which the doctor has worked hardest, and received little, if anything in payment, that results in a malpractice suit. And strange to say, many malpractice suits are brought about by adverse criticism from a fellow practitioner. Sometimes it is thoughtlessness, and other times jealousy and spite occasion the remarks.

It is unfair to criticize the method or skill of another physician with only the end result from which to judge, with no knowledge of the beginning, or the course of the injury or disease. Why do we let jealousy and spite enter into our relations with our confreres, when kindness and consideration are more to be desired?

The Bureau of Legal Medicine reports twenty-six state associations that are assisting their members against malpractice suits. These associations are commended by the Board of Trustees of the American Medical Association, and it urges all associations to organize in this defense service for their members.

This is my last "President's Page" as my term of office expires on December 31st. I have served The Kansas Medical Society for nearly nineteen years, first as Secretary for seventeen years, and the remainder of the time, one year and eight months, as President-elect and President. I feel that I have been highly honored by The Kansas Medical Society, and I appreciate and thank it for this trust reposed in me. I hope I have merited this confidence.

I want to congratulate the Society on its choice of my successor, Dr. H. L. Snyder. I myself have the highest regard for him as a friend and for his ability to carry on the work of the Society in its service to the profession and to the state. Let us all pledge him our loyalty and support.

To each and every member of The Kansas Medical Society, I extend my heartiest wishes for a very joyous Christmas and a happy and prosperous New Year.

And may The Kansas Medical Society move onward and ever onward.

J. F. Hassig, M.D.

EDITORIAL

DR. J. F. HASSIG—PRESIDENT

The presidency of a state medical society has always represented one of the highest honors medicine can confer, but the advent of new problems and new difficulties in recent years has added a tremendous responsibility to this honor. Today, the man who accepts the office takes upon his shoulders the guidance of medicine through a crisis, and the extent and wisdom of his leadership are destined not only to affect the present medical generation but also those to follow.

A glance at this year's record will show that Kansas medicine acted wisely when in May 1934 it chose Dr. J. F. Hassig for this responsibility. In all probability no president of the Kansas Medical Society has faced a more precarious year, and in all probability no president has better served the organization.

His eighteen years of experience in medical organization, his excellent cooperation and suggestions were of great aid to the Executive Secretary Committee and the Executive Secretary in establishing and organizing the operations of a central office before his term of office began. His term coincides with the first full year of operation of the full time executive secretary plan which has provided the executive with a strong coordinating and motivating aid not available to former incumbents.

Early in this administration, the Council decided that the Society needed a committee to consider and assist in the handling of the difficult economic problems that confront the profession. Dr. Hassig's wise appointments to the organizations first Medical Economics Committee and the splendid work its members have accomplished are well known to all Kansas physicians.

Since Kansas had not been offered federal aid for provision of medical care to relief workers, many physicians were bearing a difficult burden

in caring for these cases without compensation. The various studies instituted on this subject, the many conferences held with Washington and local relief authorities, and the subsequent development of a plan designed to provide adequate indigent medical care in accordance with medical ethics and without governmental financing are additional accomplishments of this administration with the efficient cooperation of the Medical Economics Committee and the Executive Secretary office.

His long activity in the famed Brinkley case was culminated during this year by a decision in the federal courts which upheld the ideals of organized medicine for public welfare.

The 1935 session of the legislature also presented several matters of medical importance. The Society was asked to assist in the passage of a state basic science law, and although the campaign was not victorious it was successful to the extent that the act came closer to passage than ever before. Of other medical bills introduced, none opposed were passed and only a few of those endorsed were defeated.

Kansas was able to offer WPA employees a free choice of legally licensed doctors of medicine for treatment of traumatic injuries suffered in the course of work project employment, while physicians were allowed equitable and standardized fees for services rendered in that connection.

The Social Security Act was assigned as a Society study shortly after its passage by Congress, and through excellent cooperation afforded by Dr. Earle G. Brown, Kansas will doubtless have an efficient program in that regard.

Dr. Hassig's interest in Kansas' greatest health program—the practice of medicine and surgery by unqualified cults—has gone far toward bringing about definite action to improve this situation.

It became known that schools throughout the country would this year engage in debates on the subject of socialized medicine. Again, through efficient leadership, we met the chal-

lenge of certain propagandists who had hoped to catch medicine napping.

Those who care to investigate will find that the next American Medical Association meeting was brought to Kansas City, Missouri, largely through the efforts of Dr. Hassig. He thought that this easily accessible meeting-place for the greatest of all medical conventions would be of assistance to mid-western medicine.

Much more of the record can be recalled for which space does not permit an adequate description: A Committee on Maternal Welfare was instituted during this year; the Committee on Public Health and Education outlined news releases and speakers bureau projects which will soon be operating; the Cancer Committee continued its excellent work and has planned a cancer post-graduate course to be offered in strategic geographical centers of the state; through Society recommendation local medical economics committees have been appointed in many county medical societies and official representatives are soon to be selected in non-organized counties; present membership stands at 1450 which is a high mark for recent years; the successful 1935 state meeting displayed the second highest registration in the history of the Society; groundwork was laid for securing the appointment of a doctor of medicine as a member of the Kansas Board of Regents, and resolutions were exchanged with the dental profession toward a closer union of the two professions.

The membership might be interested in knowing that Dr. Hassig has this year traveled 12,225 miles, spent forty full days and twenty-nine part days, and attended forty-two out-of-town medical meetings in the interest of the Society.

It seems evident that Kansas medicine has made great progress this year, and that its members may well be proud of its retiring president and his record.

THE RIGHT TO DIE

In recent issues of the daily newspapers, widely splattered across the front pages, there have appeared many titles bearing upon the subject of painless eradication of incurables. This publicity was brought about by the bit of information arising from a campaign in England to establish "the right of persons suffering from an incurable disease to die," following the report that an English physician had admitted that he was responsible for or had taken the life of five individuals on different occasions.

This opens up quite a large field for discussion and all in all throws a very great load upon the medical profession. There is no doubt about the fact that ever so often every physician is confronted with the fact that he has an incurable with which to deal, a patient that reserves the greatest of sympathy and the best of care. And it is not infrequent in every physician's life to have the feeling that one of his patients would be better off were the patient to leave this world. But where is he to draw the line?

First of all before one can go very deeply into this subject, we must first define or designate just what we mean by "incurable." And also there must be a certain amount of consideration of medical history to furnish the background for our decision. In the history, handed down from mouth to mouth of the Indian tribes, so the legend goes, at the time of childbirth the march was stopped along the wayside long enough for the Indian mother to give birth to her child and expell the placenta. Should the placenta not be expelled in a reasonable period of time the mother was left by the wayside to die of hemorrhage or infection because they were wise enough to know that manual removal meant death. To the Indians that mother was incurable. Is that our modern interpretation of the condition of retained placenta?

In the past century pulmonary tuberculosis meant almost certain death. Do we have that

same conception now? Prior to the boldness of the pioneer abdominal surgeon, Dr. Murphy, acute appendicitis was almost invariably fatal. Is it now? Most all of us have seen the hopeless, helpless, doddering, incontinent parietic undergo the modern fever therapy, whether it be mechanical or by inoculation, and return to society a fairly useful citizen. Within the medical experience of most of us the hopeless picture of the diabetic has been turned into one that is much happier in its scope.

In the very recent months we hear reports of temporarily arrested cases of dementia praecox, a heretofore incurable disease. We are also hearing of relief of prostatic urinary retention without resorting to surgery, thereby reducing the mortality of prostatic disease. The dreaded hypertention of old with its inevitable end of cerebral hemorrhage is beginning to clear a little around the horizon and some of the haze is clearing away, with increasing concepts of glandular origin of functional disease.

The ideal of modern physicians and surgeons is, primarily to prevent disease, to cure those that have become afflicted, to search for and eke out the etiology of incurable disease, and to find a cure for such. The basis for this ideal is the prolongation of healthful and useful life. We must not get the idea that we are Gods chosen few to determine who shall live, or how long they shall live. Promotion of life is our aim and towards that end we should strive. And in the light of such, a definition of "incurable" would be an admission of ignorance concerning some disease, that sooner or later scientific and medical workers will solve.

"THE DOCTOR AND THE PUBLIC"

"The Doctor And The Public," by Doctor James P. Warbasse, published recently by Paul Hoeber, is according to the author's preface, "an inquiry into the physician's place in society and the possibilities of the medical method in

solving social problems." The thesis is that medicine possesses, for the public and for the physician, depths of value not yet sounded and resources of service still untouched. The aim of the book—"to bridge the space between medical science and public interest"—may well express the aim and ideal of medical practice.

The book is enhanced in interest and in value as a document by a review of medical history in which is shown the relation of medicine to the civilizations of antiquity, the conflicts with theology and mysticism, and the obstructions of superstition, ignorance and wars. The names and their places in history of the great men who are the heritage of modern medical science are told that the reader may see in the long perspective of time the science of medicine in its growth and finally coming of age in the present century. It is the development to maturity of power of medical science as a social force that particularly interests the author. His viewpoint is that of a physician zealous for the economic welfare of his fellows in the practice of medicine, with the social consciousness of the needs of the masses for a more adequate medical service which he deems a fundamental necessity.

The opposition of the medical profession to sick insurance which is neither under the control of physicians or patients should not, in the author's opinion, be carried to honest attempts toward the application of the insurance principle when exercised in the interest of both physician and patient. He believes that the medical profession cannot afford to close its eyes to the fact that some form of socialization of medicine is coming and he urges that the profession seek to guide the trend.

The principle involved in the group co-operative associations appears to Dr. Warbasse as particularly attractive as a solution of the problem of distributing medical service. He would organize physicians into groups, with all required specialties represented. Such groups would cooperate with consumers' co-

operative associations made up of the people of the communities in which the medical groups are to practice. This plan, he suggests, can be worked out in every community and be made of the widest application. He believes that high grade medical talent would be available and that adequate financial remuneration could be paid to the employed physicians. He does not give his approval to state socialism. He believes that whatever plan is adopted, it should be non-political in control. Medical practice should not be operated as a business. The profit motive he considers entirely out of place in the plans for the future of the practice of medicine.

Criticism of the government's attitude toward public health is well directed in calling attention to the profound importance given to every interest having to do with property and profits. Dr. Warbasse writes: "Money has a guardian angel but there is no great department of government for conserving human life. There is no secretary in the cabinet of the President whose duty it is to be concerned for the lives of the masses of the people. A government by business in the interest of business has little concern as to the health of the masses. The United States Public Health service is a highly efficient but small department of government under the Secretary of the Treasury who is usually a banker or a financier. . . . The interest that the government takes in the health of the people is assayed in the scales of finance."

Dr. Warbasse makes a pertinent suggestion that might well be taken by scientists, that a central international bureau of scientific co-ordination be established for the purpose of bringing about the conjunction of minds of those engaged in scientific study and research. He deplores the existence of international barriers which prevent not only the flow of commerce but inhibit the exchange of ideas. "If Darwin could have walked and talked with Mendel in the garden of the monastery of Brün this would have been a conversation more

important to humanity than any of the widely heralded conversations of international diplomats with which the world is familiar."

The book is not radical. Dr. Warbasse is a liberal, a "Progressive" physician whose writing is evidence of his faith in medical science and its ability to solve social problems, and who would see the medical profession assume intelligent leadership.

LABORATORY

Edited by J. L. Lattimore, M.D.

TRAINING OF LABORATORY TECHNICIANS

PHILIP HILLKOWITZ, M.D.*

Denver, Colorado

Laboratory methods in the diagnosis and treatment of disease are now a vital part of the practice of medicine. Not only in the hospital but in the physician's visit to the home, he enlists the aid of these scientific and precise procedures, carried out with the test tube and the microscope. The results of laboratory findings are fraught with great responsibility, affecting the life of a patient, frequently involving a resort to a serious operation. A familiar example is the blood count in a suspected case of appendicitis which may have the deciding influence.

With the enormous increase of laboratory work in recent years, which manifestly could not be carried out personally by the clinical pathologist who specializes in this branch of medical practice or by the physician who has not the time nor the skill involved, there has sprung up a new vocation, that of clinical laboratory technician who assumes a function similar to that of the nurse in her particular relation to the doctor. Just as the latter must have a proper course of training for carrying out her duties, so a laboratory technician must undergo an adequate period of preparation and study to perform her task.

The rapid growth of laboratory practice and the demand for workers brought forth in

*Chairman Board of Registry of the American Society of Clinical Pathologists

former years a crop of ill prepared, poorly educated and temperamentally unfit personnel. This deplorable state of affairs was fostered still further by unscrupulous commercial schools who by the promise of lucrative positions lured unsuspecting aspirants to take short and inadequate instruction for extortionate fees.

In order to put an end to this chaotic condition, the American Society of Clinical Pathologists, an organized body of specialists in this branch of medicine, undertook thru its Registry of Technicians, not only to insure the qualification of workers in this field by issuance of certificates but to set down standards for their proper training under skilled tutorship. Following are the minimum essentials for approved schools:

(1) The Director must be a graduate in medicine and a clinical pathologist (or pathologist) of recognized standing. He shall be responsible for the actual conduct of the training courses. He shall spend not less than one-half of each day in the actual direction of the laboratory.

(2) The technical assistants who comprise the active teaching staff shall be those who specialize in various branches of laboratory science or registered technicians, capable of teaching, demonstrating and guiding the work of the individual student.

(3) The yearly enrollment shall not exceed more than one student to each member of the teaching staff (the regularly constituted college course is excepted.)

(4) The hospital shall have a bed capacity of not less than one hundred patients and an average daily occupancy of seventy-five or more.

(5) The minimum educational prerequisites shall be (a) high school graduation, and (b) credits of one year work including chemistry and biology from a recognized college or university (this is to be raised to two years' college work in 1938.)

(6) The minimum length of the course for training shall be not less than twelve months, consisting of a rotating or departmentalized service with the minimum of three hundred laboratory hours and sufficient didactic hours in each two month period of service.

(7) The instruction shall include (a) didactic period, (b) text assignment, (c) quiz hour, (d) periodic written examination, (e) practical demonstration, (f) practice period and

performance of tests under supervision, (g) final review and examination.

(8) There shall be adequate equipment and space as well as sufficient number and variety of specimens to meet the added requirements of demonstration and practice.

(9) The hospital laboratories approved for the training of technicians shall not allow any "students," volunteer workers or so-called "technician interns" to serve in the laboratory as substitutes for paid workers, in return for obtaining training and experience in laboratory technic.

(10) Exorbitant fees should not be charged.

(11) Commercial advertising is considered unethical.

The Council on Medical Education and Hospitals of the American Medical Association has rendered valuable assistance to the Registry by having its hospital inspectors make periodic inspections of schools for training technicians. Only such schools are approved as are passed by the Council and the Registry.

The high attributes required of a Technician—intellectual honesty, scientific ability and pleasant personality—make it imperative that discrimination be exercised in the selection of students. It is the aim of the Registry to eventually entrust the teaching to colleges of learning. Quite a number are now providing courses leading to the degree of Bachelor of Science in Medical Technology, the first three years covering a curriculum similar to that of a premedical course and the last twelve months are pursued in hospital and private laboratories under the direct supervision of a recognized clinical pathologist.

Until this goal is reached and a sufficient number of universities assume this role, the apprenticeship system of training under proper guidance will be acceptable, provided that all the conditions of preliminary education, length and adequacy of course are complied with.

This endeavor for the maintenance of high standards has received the cordial endorsement of the leading medical and hospital organizations who have actively cooperated with the Registry in its program of furthering scientific accuracy in the healing of the sick.

—JKMS—

Science cannot save lives or cure disease until it is applied.—Anon.

—JKMS—

The first qualification for a physician is hopefulness.—James Little.

TUBERCULOSIS ABSTRACTS

RESULTS OF SURGICAL TREATMENT

Surgical treatment of pulmonary tuberculosis includes all forms of mechanical collapse with the exception of that produced by pneumothorax therapy. It comprises extrapleural thoracoplasty, paralysis of the diaphragm, section of the scaleni muscles, pneumolysis with or without plombage, drainage of tuberculous cavities with secondary plastics and various combinations of these methods including that with pneumothorax. Other forms of surgical treatment still in the experimental stage are not considered in this study.

In trying to evaluate results of surgical treatment for pulmonary tuberculosis a diversity of variable factors may vitiate the significance of comparative statistics; for example, none of the various surgical procedures can be said to be standardized with respect to their technical aspects, the indications for the different procedures vary greatly and the time element is important. Nevertheless the statistics compiled as in any other field of clinical medicine, furnish a perspective and means of plotting the course of future trends.

The study is based on the author's experience with a series of 200 thoracoplasty cases, and on 4,535 from the literature. Statistical tables in the article support the author's summary, which is as follows:

THORACOPLASTY

From one-quarter to nearly one-half the deaths following thoracoplasty within a period of five to ten years occur within the first eight weeks. The author's mortality in this period was 10.3 per cent; the combined mortality among 2,810 cases was 10.5 per cent. The individual variations among the series were from three to twenty per cent. The most frequent cause of death in the author's experience was cardiac failure and pulmonary complications. In a combined group of 230 deaths, death was reported to have been due to shock in eight per cent, heart failure in eighteen per cent, and pulmonary complications or extension of tuberculosis in thirty-four per cent. The mortality rate decreases progressively after the first few weeks. From one-half to two-thirds die during the first six months.

Among 3,762 patients followed for from one to twelve years after operation, 35.3 per

cent were symptom- and bacillus-free and were able to work; 22.1 per cent were improved and able to do some work; 5.5 per cent were not improved or were made worse by the operation; 3.5 per cent were not traced; and 33.6 per cent were dead at the time of the report. A large proportion of the patients are rehabilitated to the extent that they are able to return to their former stations in life and to resume their former occupation or activities. Many women marry, and there is record of twenty-two who have borne children since their operation, usually against advice.

The variation in extent of partial thoracoplasty and relatively limited number of any one type followed for one or more years make any estimate of enduring results from them inconclusive. Among 236 collected cases followed for two years or more, 87.5 per cent were living, and 12.5 per cent were dead. Of the living, 53.4 per cent were reported as clinically well; of the deaths one-half occurred during the first eight weeks after operation.

PNEUMOLYSIS AND PLOMBAGE

Of 307 cases observed during several months to several years, 53.4 per cent were clinically well, 18.5 per cent were improved and 44.3 per cent were dead. Of the deaths, forty per cent occurred during the first eight weeks after operation.

PHRENICOEXAIRESIS AS AN INDEPENDENT PROCEDURE

This operation is performed for such a variety of indications and the chance of later recurrence of the disease following so limited a collapse is so considerable that prolonged observation of the patients in any one group will be necessary for a determination of late results. The results so far reported are conflicting, but a considerable number of enduring clinical cures are recorded.

A combination of methods has extended indications to include cases with bilateral lesions and has improved results.

CONCLUSIONS

The surgical treatment of pulmonary tuberculosis offers to properly selected patients not suitable for pneumothorax therapy the best if not the only prospect of a complete arrest of the disease and, when that cannot be achieved, a relief of symptoms and prolongation of life.

The proper selection of the patients and of methods and of the most opportune time for operation demands the closest collaboration of the phthisiotherapist and surgeon.

From one-quarter to one-half of the total deaths during the first ten years following thoracoplasty occur during the first eight weeks and death is due largely to shock, cardiac failure, and pulmonary complications, all in considerable measure preventable through pre-operative preparation, through operation graded into stages according to the patient's condition, and watchful prolonged postoperative supervision. Such measures will extend indications for operation. Even though by so doing the total mortality is not reduced, more patients otherwise hopeless are given the chances it affords.

Deaths after the first eight weeks are due largely to extension of the tuberculosis, in some measure preventable through primary adequate collapse, through secondary additional collapse or compression for recurrence, and through reasonable care of the health.

Adequate application of the method or combination of methods indicated, early in the disease before extensive destructive changes in the lung and before secondary visceral damage has occurred, will result in a minimal mortality, a maximal conservation of respiratory function, and in the greatest possible measure of rehabilitation.

The Results of Surgical Treatment of Pulmonary Tuberculosis, Carl A. Hedblom, Am. Rev. of Tuberc., July, 1935.

MEDICAL LITERATURE

Edited by Will C. Menninger, M.D.

DISEASES OF THE LIVER

In this rather short article, Lyon discusses the differential diagnosis of only three groups of cases, the toxemias, the cirrhoses, and acute yellow atrophy. He stresses the need for recognition of the early signs and symptoms of functional liver disease as these functional disturbances precede the development of structural changes.

In advanced liver disease, the history and physical examination, coupled with good clinical experience, may often alone suggest the broad major diagnosis, but in early stages and even in later stages, there is often a merging or overlapping of changes in hepato-cellular struc-

ture or hepatic damage which makes the laboratory duodenal tube studies, and roentgen-ray observations of valuable assistance in clarifying the details.

The clinical picture of the terminal stage of cirrhosis is easily identified, but it is important to recognize the early signs and symptoms so that the terminal decompensated stage with ascites may be prevented or become less frequent. The early symptoms of potential cirrhosis of the liver are similar to those of the hepatic-intestinal toxemias. In these there may be an antecedent history of simple catarrhal jaundice, typhoid fever, constipation, or perhaps of the use of arsenicals, the quinolines, excess iron or copper, or a preceding chloroform anesthesia. In the early stages the patient complains of undue fatigability—he is unrefreshed after eight hours sleep—mild to severe cramps in toe, foot arch or leg muscles, diurnal drowsiness, loss of alertness and ability to concentrate, momentary dizziness, dancing scotomata, sallow color, and frequently acne vulgaris. The sclerae are icteric, the stools slightly deficient in bile, the urobilinogen index is high, indican may be in excess; liver spots or cloasmata may appear; telangiectases above the costal margins are important signs to note; the differential value of the Van den Bergh test are often helpful; the icterus index may show latent if not actual jaundice; there may be an increase in uric acid, a diminution of urea, or possibly an increase of blood cholesterol; and bromsulphalein retention and evidence of diminished liver secretion and excretion of bile are of diagnostic value. Patients manifesting the above clinical features have been designated by Lyon as hepatic toxemias, intestinal toxemias, and hepatic-intestinal toxemias. Such symptoms are often the prelude to cirrhosis itself which is classified as ordinary or common cirrhosis and biliary cirrhosis. In the first of these, hematemesis is an early symptom; ascites a terminal incident. Jaundice is not prominent and the liver may be either large or small but is multilobularly involved. The spleen is enlarged at times but not so constantly as in group two. In biliary cirrhosis, jaundice is prominent and long continued and hematemesis and ascites are both less common. The liver is enlarged and the surface is smooth and unilobular. The spleen is also enlarged. This group has been subdivided by Rolleston into (a) simple hypertrophic biliary cirrhosis and (b) obstructive biliary cirrhosis.

Acute yellow atrophy or acute necrosis is characterized by decreasing size of the liver, by jaundice, fever, and certain nervous symptoms. The first stage is one of indefinite malaise, early mild digestive symptoms, or jaundice. The appearance of nervous symptoms and a turn for the worse mark the onset of the second stage. Features of this stage are headache, photophobia, dullness, restlessness, delirium, muscular twitchings and convulsions, and the presence of the Babinski sign. In the third stage, vomiting is more troublesome and frequently bloody, the pupils dilate, the pulse is rapid and thready respirations increase, the temperature may be subnormal or rise to high fever, petechiae and submucous hemorrhages frequently occur, drowsiness becomes progressive, and the patient lapses into comas and usually dies.

Treatment consists of warmth to the liver region, blood transfusions, intravenous sugar, carbohydrate fluids by mouth, salt and sugar by bowel and subcutaneously, duodenal drainage, and general supportive measures. Bile salt preparations by mouth or vein are dangerous until after jaundice has subsided.

Lyon, B. B. Vincent: *Differential Diagnosis of Diseases of the Liver*, *Annals of Internal Medicine* 9:258-263, September 1935.

DIGITALIS AND HEART DISEASE

Willius discusses the use of digitalis as a treatment for cardiac disorders. Ever since its introduction in 1776 as a treatment for dropsy, digitalis has been the most used and misused drug in the treatment of heart disease. When properly administered, it has proved to be the most valuable of all present day drugs, but the tendency exists to administer it on the mere mention of heart disease and in heart disease regardless of the type of lesion or state of function.

The practical facts concerning its known effects on the heart of man are (1) in therapeutic doses digitalis has been known to increase the amplitude of ventricular contraction by its direct action on the cardiac muscle; (2) slowing of the heart occurs under certain conditions, particularly in auricular fibrillation and conspicuously when the ventricular rate is rapid; (3) this slowing occurs from stimulation of the vagus center in the medulla, from stimulation of the cardiac vagal endings, and from direct repressant action on the auriculo-ventricular conducting system. Other specu-

lative or secondary effects are diminution in cardiac output, increase in myocardial tonicity, lessening of dilatation, and diuretic effect. The full effect of the drug rarely becomes evident before forty-eight hours.

It is extremely important to select a preparation of digitalis that is properly and accurately standardized. It is necessary to use a preparation that does not deteriorate rapidly and one that is known to be less than a year old. Forms suitable for use are the tincture, the powdered leaf in capsules, and the tablet of known potency, although if the tincture is used, it is necessary to abandon the time-worn and inaccurate drop method for an accurately marked inexpensive metric graduate.

The individual oral dose varies in different cases. The average dose of the tincture is 1.5 cc. three times daily or 0.1 gm. (grains 1½) of the powdered leaf or tablet three times daily. Administration is continued until full therapeutic effect is obtained unless toxic phenomena occur. If this occurs, the drug may be discontinued for four or five days and resumed for two or three consecutive days. If quick action is desired, larger doses may be given by mouth or injected intramuscularly in dose of 6 to 8 cc. or 0.4 to 0.5 gm.

Contraindications to the use of digitalis are anorexia, nausea, vomiting, diarrhea, coupled beats, the development of partial or complete heart block, dimness of vision, inability to focus the eyes, difficulty in the identification of objects, presence of scotoma and diplopia, yellow and green vision, prodromal symptoms, restlessness, increased nervous irritability, periods of disorientation regarding time and place, and occasionally stupor and paroxysms of tachycardia.

Willius, F. A. *Cardiac Clinics XIII*. Talk on Digitalis, *Proceedings of the Staff Meetings of the Mayo Clinic* 10:577, September 11, 1935.

URTICARIA DUE TO SENSITIVITY TO COLD

A good review of the literature, presented by Levine, regarding urticaria due to sensitivity to cold reveals that there are three hypotheses for the etiology of urticaria following exposure to cold. The immunologic hypothesis as upheld by Prausnitz and Kustner and others is based on the method of passive transfer. Blood is removed from a view of the arm of a patient at the height of the local and systemic reaction caused by the cold, and the serum is separated and injected intracutaneously into a normal

nonallergic person. The slight swelling from the injection is allowed to subside, cold is applied, and a wheal appears. Serum from a normal person treated similarly causes no wheal. Harris, Lewis, and Vaughn, demonstrating the humoral hypothesis, were able to show that with a tournquet applied so as to cut off the venous return from the hand or the arterial supply to the hand before it was immersed in the cold water and kept on for an additional period after removal from the water a local response was produced but a systemic reaction did not occur. When the tournquet was released the systemic reaction took place. The neurovascular hypothesis, advanced by Duke, concludes that the general reaction has much to do with the actual sensation of cold and is due to an imbalance of the mechanism for regulation of heat.

The case reported by Levine is that of a housewife, thirty-six years old, who was subject to swelling of various parts of the body whenever they came in contact with a cold object. Cold food made her throat and tongue tingle and swell. At first the swelling was accompanied by weakness and generalized aches and pains, but shortly before her admission to the hospital, the systemic reaction became less frequent. Examination showed that urticaria followed the application of ice or water at from naught to twenty C. Attempts to produce wheals in a normal person by means of serum extracted from the woman were unsuccessful. Washings obtained from a large whealed area by repeatedly injecting and withdrawing sterile physiologic solution of sodium chloride with a one cc. hypodermic syringe caused a wheal in a neighboring cutaneous area while a control injection of the sodium chloride failed to do so. Other experiments showed that the formation of a wheal was not induced by the local application of menthol, which gives the sensation of cold, or inhibited by anesthesia with procaine hydrochloride.

Treatment consisted of repeated exposure to cold by means of cold showers and rubbing the body with cakes of ice. Since the patient had already improved slightly at the time of her admission to the hospital it is impossible to know whether the further improvement was spontaneous or the result of treatment. The etiology has not been determined.

Levine, Harold: Urticaria Due to Sensitivity to Cold. *Archives of Internal Medicine* 56:498, September 1935.

GUMMA OF THE HEART

Sohval enumerates the authentic cases of cardiac gumma recorded in the literature and adds two new cases.

The first case was that of an Italian man, fifty-three years old, whose symptoms of weakness, cough, anorexia, pressing sensation in the left lower part of the chest radiating to the left upper part while walking, dyspnea on exertion and swelling of the ankles were of three months' duration. Wassermann and Kahn reactions were positive; a roentgenogram of the chest revealed a marked enlargement of the heart to the right and left and a prominence the size of a large plum; and an electrocardiogram showed the rhythm to be very irregular. The patient died within nineteen days and the autopsy revealed gummatous cardiac aneurysms which explained the signs of valvular stenosis, the pulmonary prominence, and the serologic findings indicative of syphilis. It also disclosed a rare consequence of cardiac gumma, i. e., caseation, cavitation, and communication with the ventricular cavity.

The second case was that of a forty year old negro who entered the hospital complaining of dyspnea, orthopnea, palpitations and swelling of the feet and abdomen for five months. He had had polyarthritis fifteen years before and three years later he contracted a purulent urethral discharge and a sore on the penis. The patient died within two days of admission. The autopsy revealed gumma of the myocardium. This case represents the type of cardiac gumma in which it is an accidental finding at necropsy and has been unproductive of clinical manifestations. In neither of these cases was the diagnosis made clinically; however, when atypical cardiac findings are observed in a patient with conditions known or expected to be syphilis, tertiary cardiac syphilis (gumma) should be considered. Other manifestations indicative of gumma are heart block, usually situated weird stenotic murmurs, and unexplained roentgen shadows at the borders of the heart.

Sohval, Arthur R.: Gumma of the Heart, *Archives of Pathology* 20:429-444, September 1935.

FIBROSIS AND EMPHYSEMA

Chronic pulmonary conditions are considered by Miller primarily from the functional point of view, for in this way, the pathological

physiology of such conditions can be more clearly understood. The lung has an intrinsic functional capacity for adaptation to the many demands made upon it. A functional emphysema may take place which is entirely reversible in its structural manifestations. Later on, emphysema which was at first compensatory and reversible may become permanent and irreversible, but really only rarely. By far the greatest amount of emphysema takes place in the presence of mild inflammatory processes which lead to fibrosis. Clinically the first changes discernible may be entirely limited to the bronchial tree. These symptoms which are usually attributed to bronchitis may be present for a very long period of time before the second stage becomes noticeable. In this phase, increasing signs of respiratory embarrassment take place. Finally, because of the interrelationship between respiration and circulation, further respiratory decompensation leads to respiro-circulatory failure. Sometimes this is known as right-heart failure. The author emphasizes that evidence is being advanced that the lungs have capacity for functional and structural adaptation to a far greater degree than has been so far thought possible.

Miller, James A.: Pulmonary Fibrosis and Emphysema, *Annals of Internal Medicine* 9:219, September 1935.

CEREBRAL HEMORRHAGE AND CEREBRAL THROMBOSIS

This is an excellent study of 245 cases in an attempt to find criteria for differential diagnosis. These vascular lesions are more common in men than in women. Hemorrhage occurs much more frequently in the decade from forty to fifty than thrombosis. Both of these accidents are much more frequent in winter than in summer. Neither time of the day nor activity are etiologic factors. Emotional strain is not as important as some authors and laymen believe. Premonitory symptoms are far more common with hemorrhage. Headache, vomiting, convulsions, and unconsciousness occur more frequently in hemorrhage. One of the most important differential points is the type of onset, immediate unconsciousness being far more common in hemorrhage. Abnormalities in depth, rate, rhythm, and sound respirations are more frequent in hemorrhage. Elevated blood pressure, evidence of arteriosclerosis, abnormalities in the eyes (anisocoria, conjugate deviation, loss of pupillary reflex), stiffness of the neck, bilateral Babinski sign, leukocytosis,

are all much more common in hemorrhage than in thrombosis. Increased spinal fluid pressure and grossly bloody spinal fluid are usually present in hemorrhage and rare or absent in thrombosis. The survival period is much shorter in cases of hemorrhage than those of cerebral thrombosis.

Aring, C. D. & Merrit, H. H.: Differential Diagnosis between Cerebral Hemorrhage and Cerebral Thrombosis, *Archives of Internal Medicine* 56:435-456, September 1935.

SIZE OF THE HEART IN NORMAL CHILDREN

Josephi has made a series of 418 observations on the value of height, weight, age, body surface area and the usual measurements of the heart in normal children. The measurements of the heart and those of the body have been correlated and the highest degree of correlation has been shown to be between the body surface area and the cardiac surface area. Other correlation coefficients in order of their degree of relationship are: (1) cardiac surface area to weight; (2) cardiac surface area to height; (3) cardiac surface area to age; (4) cardiac transverse diameter to weight; (5) cardiac transverse diameter to body surface area; (6) cardiac transverse diameter to chest diameter; and (7) cardiac transverse diameter to height. The quotient with the statistical means of 11.5 and 15.5 has been derived as the relationship of the body surface area to the cardiac surface area and has been found to be a good measure of the series. Five tables show the statistics of Josephi's work.

Josephi, Marion G: Measurements of the Size of the Heart in Normal Children, *American Journal of Diseases of Children* 50:929-944, October 1935.

COLLATERAL CIRCULATION TO THE HEART

Beck and Tichy report on work that has been carried on at the Lakeside Hospital for the last six years. After preparing the pericardial bed for collateral circulation by irritative methods the coronary vessels were clamped off. The collateral blood supply thus established was sufficient to take care of the heart's needs. This work has been done on dogs. The first human application was given considerable newspaper publicity after a successful transplantation of the pectoral muscle to the pericardium in a man with coronary disease.

Beck, Claude S. and Tichy, V. L.: The Production of a Collateral Circulation to the Heart, *The American Heart Journal* 10:849-873, October 1935.

MEDICAL ECONOMICS

Edited by O. W. Davidson, M.D.
of the Medical Economics Committee

Three letters have come to the attention of this department during the past month which we think so well portray medical economic subjects as to be worthy of publication for the information of all members.

The first is a letter written by Dr. Earle G. Brown, Secretary of the Kansas State Board of Health, in reply to an inquiry received from a high school debater. A copy of Dr. Brown's letter was received by the central office, and its able summary of problems incidental to socialized medicine caused us to secure permission to print both the inquiry and reply.

Dr. Earle G. Brown,
Topeka, Kansas,
Dear Sir:

In connection with a survey which we are making, we should like to ask the following questions:

1. Is medical service in your state satisfactory?
2. Do you believe that a system of complete medical service, available to all citizens at public expense, would better medical conditions in your state?
3. What steps, if any, do you believe would most improve medical service in your state?
4. Do you believe that the people in your state can afford to purchase complete and adequate medical service through taxation?
5. Do you know of any source from which information about the present expenditures of the inhabitants of your state for medical service can be obtained?

An early reply to the above questions will be greatly appreciated. Please address reply to the address given below.

Sincerely yours,

.....
Topeka, Kansas.

Mr.

Topeka, Kansas,
Dear Sir:

I have your letter wherein you have asked for certain information regarding medical services in the State of Kansas.

The Kansas State Board of Health, as I presume you know, has no authority in either rendering medical service or governing the practice of physicians. Practitioners of medicine are licensed by the Board of Medical Registration and Examination, which Board is charged with the enforcement of the Medical Practice Act. Our department has authority in matters relating only to public health. The Board, however, does furnish to physicians, materials for immunization and vaccination against certain diseases.

Before attempting to answer your questions, may I suggest that the agitation for socialized medicine is largely the result of the depression, and that lay individuals are the leaders in the movement. Prior to 1930, little or no comment was heard regarding inadequacy of medical services rendered to any class of persons regardless of their social standing. However, even in those years, there were many families who were dependent upon the county or state for support, including medical care. Their number was very small in comparison with such persons today. Many of these individuals received medical service which was furnished by the city, county or state. Undoubtedly, greater numbers received such service from private physicians, and which was given by those physicians as a community service.

May I ask your indulgence while I offer some personal experiences. Upon graduation from Northwestern University Medical School, I served a year's internship in Mercy Hospital, Chicago, returned to Topeka and opened an office for the practice of medicine in 1914. My practice was terminated in September 1917 when I entered the Medical Department of the United States Army. Only a few days ago, I was reviewing some of the accounts for services rendered while I was in private practice. On a number of accounts was the notation that the patients were unable to pay; others were noted as "uncollectable," many for the reason that these individuals evaded payment for medical service just as they evaded payment of other bills they had contracted. Every physician in practice, I am quite sure, has had the same experience, but conditions have been more acute in recent years.

The answers to your questions will be based on personal observations, and on discussions of the question with doctors of medicine in various sections of the state.

1. It is our opinion that medical service rendered among certain classes is not satisfactory. This is largely the result of economic conditions in the past five years. Greater numbers of men and women are unemployed, with the result that they have little or no income. Thus they are not able to pay for medical services. This is also true as regards clothing, food and other necessities of life. During the depression, the incomes of physicians have also been curtailed. Consequently, physicians are in recent years doing a greater volume of work for which they receive no pay.

Under authority of the state laws, Boards of Commissioners of the various counties are required to provide medical care for indigent persons. This authority is contained in Sections 39-323 and 39-326, R. S., 1923, as follows:

"Relief of persons sick or in distress. It shall be the duty of the overseers of the poor, on complaint made to them that any person not an inhabitant of their township or city is lying sick therein, or in distress without friends or money, so that he or she is likely to suffer, to examine into the case of such person, and grant such temporary relief as the nature of the same may require; and if any person shall die within any township or city who shall not leave money or other means necessary to defray his or her funeral expenses, it shall be the duty

of the overseer of the poor of such township or city to employ some person to provide for and superintend the burial of such deceased person, and the necessary and reasonable expenses thereof shall be paid by and upon the order of such overseer; and the board of county commissioners of the proper county at any meeting of such board shall examine all claims arising under the provisions of this section, and if found reasonable shall direct the same to be audited and paid out of the county treasury." 39-323.

"Physician for asylum. It shall be the duty of the county commissioners to appoint annually a well-qualified physician to attend the county asylum and allow him a reasonable compensation for his services." 39-326.

We realize many persons who are on relief are unable to pay even a small fee for medical service, and such services are theoretically provided by the various counties. Those who are on work relief could pay at least partial fees for medical services if they were willing to do so. It is our opinion that many individuals who could pay, are using the depression as a reason to avoid payment for many legitimate purchases, including medical services.

2. It is my opinion that a system of complete medical service available to all citizens at public expense would not better medical conditions in Kansas. It is only necessary to refer to the records of certain foreign countries which have systems of so-called state medicine to confirm this statement.

Medicine is a science and if a physician is to render satisfactory service he must undergo a long course of study. The entering medical student must be a high school graduate and have not less than two years of premedical instruction. Certain medical schools require that their students shall be graduates of a recognized college or university with a degree in arts or sciences. The medical course requires four years and in addition an internship of one and one-half to two years before the graduate is qualified to enter practice. We are not attempting to set up in this statement the amount of money which may be involved in a physician's education, but it may be seen that a minimum of nineteen to twenty years of school, including the internship is necessary before the graduate is qualified to practice. Therefore, a physician is entitled to a reasonable return on his investment, which is his education.

I believe if you will refer to the records of certain foreign countries having socialized medicine that you will realize that such a system is inadequate. Every physician participating may have assigned to him a very large number of patients. It is impossible for any physician to see a large number of patients in one day and give them a careful examination, which is necessary for satisfactory medical service. If it is necessary for the patient to go to the physician's office to receive such care, then the patient, if he is any distance, will delay seeking medical service until an emergency arises.

Under the plan of "socialized" medical care, the family physician-patient relationship is lost. The patient has no choice of physicians, and conversely

the physician cannot limit his practice. It is our opinion that physicians in Kansas and other states of the Union have rendered more efficient medical care than in any other country in the world and the reason for this is that the patient has had the privilege of selecting his own medical advisor.

3. As referred to previously, the board of county commissioners acting through its poor commissioner, has the authority to provide medical service to those who cannot pay for such services.

A plan of cooperation has recently been developed through the Economics Committee of The Kansas Medical Society which will provide medical attention to work relief and direct relief families. Under this plan those persons who are on work relief will have the opportunity of securing medical service by the payment of a monthly fee per family, which amount will be regularly paid whether or not such services are utilized. The plan is, however, during the period of the emergency, and the emergency will be established by The Kansas Medical Society.

This plan will permit the free choice of physicians, with the consequent maintenance of the patient-physician relationship. Under this plan, the physician could not make any profit, yet, the volume of service would tend to make possible near-cost price for his services.

4. No. If socialized medicine is made compulsory by state law, the quality of medical service will be inferior to the service that is given under the present system. If socialized medicine should be required by law, we believe that the medical students entering college would not be as well qualified as they are at the present time. Undoubtedly, there would be an increase in the number who would study medicine, with the idea of having an income rather than rendering a high type of medical service. There would be no incentive for research or investigation.

5. I do not know of any source where expenditures could be secured for medical service. I am presuming that you are familiar with the report on the cost of medical care which was issued some years ago, but does not adequately present conditions as they are at the present time. The records for medical care for the various counties in the state should be available through the offices of the county clerks in the respective counties. This would apply, however, only to the medical services rendered to the indigent.

For all classes, we cannot understand why there should be a demand for socialized medicine, with the physician providing his services at cost. There has been no demand that banks loan money without interest; that clothing, food, hardware or other merchandise be provided without profit, or newspapers and magazines accept advertising for merely the cost of printing.

If socialized medicine is to become a reality, would it not be just as reasonable for the legislature to enact a law prohibiting banks from making interest charges (other than actual cost of handling) on loans; that clothing, food, hardware and other merchandise be sold at actual cost, and that newspapers or magazines could only make a charge to

the advertiser for the actual amount of money expended for the printing of an advertisement?

The Kansas Medical Society has prepared a statement on "socialized" medicine. If you do not have a copy, it may be secured by addressing your request to C. G. Munns, Executive Secretary, Stormont Building, Topeka, Kansas.

Very respectfully,

Earle G. Brown, M.D.

The second letter is from a member who was kind enough to write the central office about several experiences he has had in connection with the current inter-scholastic debates on socialized medicine.

Dear Sir:

"Just a note to tell you my experience with the debate situation up to date. In the letters sent out to each high school here in addition to inviting the debate teams to confer with the debate committee appointed, I added also the invitation that they call upon their family doctor or any other doctor of their choice that belonged to the county medical society if they should find it more convenient to do so.

I have been very much gratified with the results, for I find that several of the doctors that have taken little interest in the county medical society before have been called upon and have been stimulated perhaps more by the contacts on this question than by any other means; in fact, one such doctor told me this morning that he had answered a number of questions for these high school students that came to his office, and after talking with some of the affirmative debaters, they were of the opinion that they wanted to go back to the school and get switched over to the negative side of the question.

I received a call last evening from our high school, stating that they were practicing their debate that evening and invited me to attend.

I was convinced of a number of things while I listened to this debate. First, that the debate judges will decide wholly upon the manner in which the subject is handled and not upon the subject material. Second, that the arguments presented by the negative side, with all due allowance for my biased opinion, will impress the audience more logically than the material given by the affirmative side; in fact, I felt rather proud of the Medical Society, and I think that the public will feel much the same way when they listen to the debates. Third, I wish that every member of the Medical Society could hear the debates, for I think that it is the best mirror that any of us could go before to see just how we have impressed the laity.

For instance, the affirmative argues the point that money spent for patent medicines and quack doctors would be almost enough to defray the expenses if the people had the privilege of going to good doctors and a well organized system of socialized medicine. Then in the rebuttal the negative side points out the millions of dollars spent for cigarettes, cosmetics, candies, etc., and the various harmful arguments against the statement that people cannot afford to pay doctors. They point out that there is no basis for people spending so much money

for such things that they cannot afford to pay the physician. In argument against the patent medicines they make the most pertinent criticism of the medical profession in a perfectly legitimate way by stating that the patent medicines that have the largest sales are the best patent medicines. This is substantiated by that fact that many of these medicines are prescribed and recommended by the family doctor; then they name a list of advertised therapeutic agents. Certainly there can be no denial on the part of the physicians that our prescribing pharmaceutical agents with which the public are familiar has brought about such a severe criticism against our profession.

I had the privilege of answering questions for about forty-five minutes to this group. I went there armed with a lot of pamphlets and statistics, I found no occasion to use any of the material. The questions were very sensible, very elementary, and could have been answered by any member of the profession.

I think that perhaps one of the most beneficial moves that the Medical Economics Committee could make would be to get word to all of the high school debate teams to invite doctors to sit in on these trial debates. I am sending out another letter to each school, as a result of my experience, to invite the doctors of their choice to meet with them. The earlier that we can get them started on this the better we will be able to convince those debaters of the real truth of the situation. I sincerely feel that the experience of this one doctor I mentioned will strengthen the negative side and weaken materially the affirmative by presenting nothing more than the truth of the situation."

The last is by Dr. P. T. Bohan, Kansas City, Missouri, which letter seemed to us to offer an interesting illustration of state medicine in general, and particularly in Porto Rico.

Dear Sir:

I first want to apologize for the delay in answering your letter of the 12th. One reason for not making an immediate reply was that I wanted to contact Dr. C. C. Dennie, so that he could correct me if I had misunderstood any of the conversation that took place between ourselves and a young doctor in Porto Rico—a graduate of Kansas University, a few years ago.

However, the remarks I made at the banquet were in reference to medicine, as practiced in Porto Rico. Neither Dr. Dennie nor myself, due largely to the language (Portuguese) were able to find out much about medical economics in Brazil. Information that we obtained, however, showed that they have both government support of the hospitals and private practitioners, and the men doing private work seem to be quite well satisfied. The standard of living in Brazil, as you no doubt know, is very low. A policeman gets \$14.00 a month and common labor is paid twenty to thirty cents a day. In spite of this, the average fee charge for an office call by a private practitioner is thirty to forty milreis, which is equal to \$1.80 and \$2.40.

My comments at the banquet were pertaining to the conversation which took place between Dr.

Dennie and the young K. U. graduate, of a few years ago. This young man was getting \$2500.00 a year and he said that was all he ever expected to make. For the past year he has devoted all his time to examination of stools. He said, not once but repeatedly, that if he went to a private home to get the stool of a sick child, regardless of the condition of the child he was not allowed to prescribe for it. This was left to another man, whose duties consisted of prescribing medicine for children with diarrhea.

Our young friend, also, stated that ninety per cent of the medical work done on the Island is done by either the stated employed doctors or by men doing public health work, and that most of the ten per cent private work is referred through political pull by government officials.

The thing that impressed me very much was that in spite of this attempted specialization and the enormous cost to the state of their government physicians and public health service, the death rate from tuberculosis is increasing at a tremendous rate—last year, 500 per 100,000 population, something more than ten times the rate in the state of Kansas.

This certainly cannot be attributed to the climate which is something like Florida the year round, nor does the explanation that it is due to lack of vitamins and proper food satisfy me, since they have as good food as they ever had.

Dr. Dennie asked the young man how he liked his work and he said that he was very much dissatisfied, that he hoped soon to come to the States and locate in San Antonio, and that he would be quite happy if he thought he could make \$75.00 a month in private practice.

Sincerely yours,

P. T. Bohan, M.D.

The Effects of Amidopyrine and Phenobarbital on the Blood Cell Count of White Rats

SLOAN J. WILSON, M.S.

(Continued from page 511)

count, as much as three times the normal level. A slight reduction in the erythrocyte count was observed in the same series, which later returned to normal. A few normoblasts were found in series I and II (amidopyrine, and amidopyrine and phenobarbital) on the thirtieth to the thirty-fifth days. No other changes were present in the differential counts.

No changes occurred in the blood pictures of the series in which phenobarbital was used alone.

The appearance of the normoblasts after intensive medication seems to indicate that the bone marrow was affected in some manner. It is possible that adequate dosage of amidopyrine, with or without phenobarbital, over a sufficient period of time, may produce leucopenia and granulocytopenia following initial leucocytosis.

The subcutaneous, daily injections of the drugs produced no apparent inflammatory reaction. All of the injections were made in the subcutaneous tissue of the back.

CONCLUSIONS

1. Amidopyrine produced an elevation in the leucocyte count in rats, which returned to normal within twenty-eight to thirty days.

2. Amidopyrine and phenobarbital when given together produced a leucocytosis which returned to normal. A slight reduction was noted in the erythrocyte count.

3. Normoblasts were found after repeated injections of amidopyrine, and in combination with phenobarbital. This is presumptive evidence that the bone marrow was being stimulated to some degree.

4. Phenobarbital when administered alone produced no change in the blood picture.

5. The repeated daily subcutaneous injections of amidopyrine and of phenobarbital produced no local reaction.

(The author wishes to thank Dr. Hazel E. Branch, University of Wichita, and Dr. R. M. Isenberger, University of Kansas School of Medicine, for their helpful assistance and advice.)

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—JKMS—

A. C. Ivy, Chicago (*Journal A. M. A.*, Aug. 17, 1935), points out that the administration of adequate amounts of raw pancreas or active pancreatic extracts orally in the presence of a deficiency of the external pancreatic secretion has a firm theoretical basis. The value of raw pancreas given orally to depancreatized dogs is established, the chief value of the therapy apparently being to prevent fatty degeneration of the liver. There is some evidence indicating that administration of raw pancreas and pancreatin to animals and patients having a definite deficiency of pancreatic secretion decreases the loss of fat and nitrogen in the feces. Such therapy has been used in sprue and other conditions, but its value in these has not been definitely established.

THE TIN CONTAINER

● The simple facts about many things encountered in everyday life are sometimes not understood and, frequently, their values are not fully appreciated by persons thrown in daily contact with them. Among such things, we can include the so-called "tin cans" and the foods which they may contain.

For example, many may have wondered—but, certainly, few have inquired—as to the origin of the popular designation for tin containers. The name "tin cans" arose from an abbreviation of the term "tin cannisters" applied to them during the latter part of the last century by English manufacturers. Such a name is hardly correct, since "tin cans" are made from mild steel which has been rolled into thin sheets and coated with pure tin. Actually, the can is about ninety-eight percent iron.

Again, interest has sometimes been expressed in regard to the nature and purpose of the enamels found in cans in which certain products are packed. These enamels are essentially lacquers

developed by years of intensive research; they are baked on the tin surface at high temperatures. Their chief purpose is to preserve natural flavor and color characteristics of some foods. While desirable in certain instances, enameled cans are not necessary to insure a wholesome canned product.

The facts about the foods contained in cans are equally simple. Canned foods are merely selected foods which, after preparatory operations, are hermetically sealed in tin containers from which most of the air has been excluded. The preservation of the foods is then effected by a heat treatment.

The nutritional values of commercially canned foods have been established by more than a decade of biochemical research. Reference to recent articles (1), (2), together with those publications listed in their bibliographies, will permit the reader to determine for himself how favorably commercially canned foods have stood the test of actual scientific scrutiny.

AMERICAN CAN COMPANY

230 Park Avenue, New York City

(1) 1934. Ind. Eng. Chem. 26, 758
(2) 1932. Ind. Eng. Chem. 24, 650

This is the seventh in a series of monthly articles, which will summarize, for your convenience, the conclusions about canned foods which authorities in nutritional research have reached. We want to make this series valuable to you, and so we ask your help. Will you tell us on a post card addressed to the American Can Company, New York, N. Y., what phases of canned foods knowledge are of greatest interest to you? Your suggestions will determine the subject matter of future articles.



The Seal of Acceptance denotes that the statements in this advertisement are acceptable to the Committee on Foods of the American Medical Association.

NEWS NOTES

INDIGENT CARE

Information was received several weeks ago that all forms of direct relief financed by federal funds would definitely end on December 1. This not only meant that states who have received federal assistance for providing medical care to relief clients under FERA rule No. 7 would no longer receive that aid, but also that there is little possibility for future assistance.

Although the ruling will not have a substantial effect in Kansas, inasmuch as this state has been one of five which has received no federal funds for that purpose, the recent plan announced by the Medical Economics Committee was designed to meet a situation of this kind wherein direct relief clients will be provided for by counties of their residence and work relief clients will furnish their own necessities from work project salaries they receive.

A considerable number of counties in the state have instituted the above plan during the past month. To date no county commissioners are known to have refused its provisions and no great difficulties have been experienced in inducing work relief clients to participate.

Osborne County, which was selected by the Committee as a place of experiment before the plan was offered to all county medical societies, has had three months experience. In the first month eighteen work relief families paid their own monthly assessment and became members of the plan; in the second month approximately 150 work relief families paid their own way; and in the month closed, the number was increased to 200 work relief families and 107 rural homestead rehabilitation clients. In addition the county has paid considerable amounts for inclusion of direct and work relief clients who were unable to pay their own way.

DR. F. L. LOVELAND TO SPEAK

Dr. F. L. Loveland, Chairman of the Medical Economics Committee, has been invited to describe The Kansas Medical Society Plan for indigent medical care at the Northwest Regional Conference.

The meeting will be held in Chicago on February 16 and will be attended by representatives of midwestern and northwestern state medical societies.

PWA COMPENSATION

The central office recently requested that the Public Works Administration of Kansas furnish a ruling as to whether or not PWA employees would be entitled to governmental workmen's compensation for traumatic injuries in a similar manner as is to be provided for WPA employees.

An answer was made that all PWA projects are to be let to contractors and that therefore the government will have no direct responsibility in that regard. However, other rules of the PWA provide, that all contractors shall carry approved workmen's compensation insurance or other protection. It is therefore probable that physicians attending these cases will be entitled to payment through either the contractor or insurance carrier of a particular project.

NEW BROCHURE

Dr. R. G. Leland, Director of the Bureau of Medical Economics of the American Medical Association, has just completed a new brochure entitled "An Introduction to Medical Economics" which contains a complete summary of most problems applicable to the socialization of medicine.

Officials of the Society who have read the pamphlet believe that it is of such great value to be worthy of distribution to all members and are, therefore, attempting to secure a sufficient number of copies for this purpose.

RADIO DEBATE

The physicians of Hays presented an interesting advertisement in the Hays Daily News under date of November 11. The advertisement was entitled "What Do You Think About 'Free Medicine' at Taxpayers' Expense," and contained a complete description of the radio debate to be held on the following day between representatives of the American Medical Association and certain proponents of socialized medicine.

PHYSICIAN DESIRED

Information has been received that the town of Belpre desires a physician. None is located there and one is needed. The town is situated fifteen miles south of Larned and about seventy-five miles west of Hutchinson, with a population of approximately 385, and in a farming community. Further details may be secured from Mr. A. G. Hunt, secretary of the Belpre Business Booster's Club, Belpre.

DEATH NOTICES

Dr. F. E. Gaither, 54 years of age, died in Norton on November 11. He was born December 17 in Lynville, Indiana, and attended the University of Colorado School of Medicine for his medical training. He graduated from there in 1906 and at that time went to Clayton to begin his practice. He received his earlier college education from Creighton University, Omaha, Nebraska. In 1910 he moved to Lenora and practiced there until a year ago, when his health forced him to go to Nemaha, Nebraska. He was a member of the Northwest Kansas Medical Society.

Dr. Katherine S. Hughes, 73 years of age, died in Kansas City, on October 23. She graduated from the College of Physicians and Surgeons in 1896 and was licensed to practice in 1901. She was a member of the Wyandotte Medical Society.

Dr. H. F. Hyndman, 49 years of age, suffered a stroke and died in Wichita on October 31. He was stricken at a local hospital while making his calls and although treated immediately failed to rally. He had been practicing in Wichita since 1917, was a member of the board of directors of the Sedgwick County Medical Society and a former president of that organization. He graduated from the University of Kansas School of Medicine in 1910 where he specialized in internal medicine.

Dr. Charles J. Simmons, 77 years of age died in Lawrence on October 20. He was born in 1858 and

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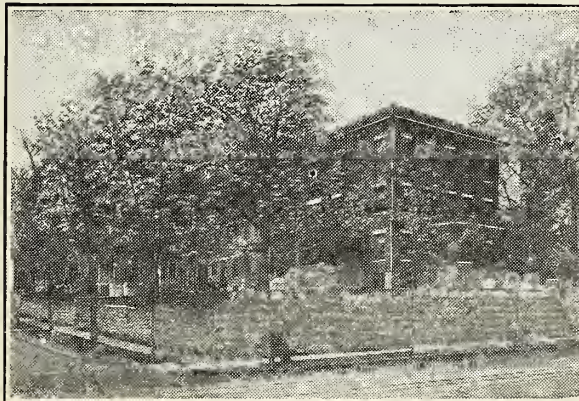
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received his medical education from the Bellvue Hospital Medical College in New York, graduating from there in 1905. He was licensed in 1901 and specialized in surgery. He was a member of the Douglas County Medical Society.

DR. DAVID STARR JUDD

All physicians deeply regret the untimely death of Dr. David Starr Judd on November 29. As a leading member of the Mayo Clinic he contributed many important advances to medicine and surgery.

MEMBERS

Dr. William Algie, Clay Center, has moved to Kansas City where he will be associated with a group of physicians.

Dr. G. A. Chickering attended the sixth annual fall conference of the Oklahoma City Clinical Society held in Oklahoma City the first week in November.

Dr. W. T. Creviston, formerly of Olsburg, has located in Manhattan.

Dr. O. W. Davidson, Kansas City, attended the Southwest Branch of the American Urological Association at Little Rock, Arkansas, November 14-16 and presented a paper entitled "Relationship of Hyperparathyroidism to Renal Calculi."

Dr. P. E. Davis, Princeton, has moved to Ottawa where he will continue his practice.

Dr. W. M. Droll, Alta Vista, attended the American Neuropsychiatric Association meeting in Topeka on October 25 and 26.

Dr. Clifton Hall, Topeka, was recently elected a member of the governing Council of the Mississippi Valley Tuberculosis Association.

Dr. Arnold Isaac, Newton, was elected to membership in the American Urological Society at its fifteenth annual convention in Little Rock, Arkansas, on November 17.

Dr. H. W. Palmer, Wichita, attended the annual meeting of the Aerial Medical Association held in San Antonio, Texas on November 1, 2 and 3.

Dr. N. P. Sherwood, University of Kansas department of bacteriology, was selected to lead a discussion of the paper on "Objectives of Medical Education" presented by Dean Lewis, Johns Hopkins University, at the Southern Medical Association meeting in St. Louis.

Dr. Frank Morehead, Neodesha, has been elected to membership in the Wilson County Medical Society.

KANSAS COMPENSATION SCHEDULE

Since sufficient copies of the Kansas Workmen's Compensation Schedule of Fees could not be secured to enable enclosure with the recent bulletin regarding WPA traumatic injuries, it is printed below for the benefit of all members who do not possess a copy:

FEE SCHEDULE

(Adopted by the Commission of Labor and Industry of the state of Kansas and effective March 20, 1929.)

MISCELLANEOUS

Minor injuries (first dressing) day at office,	\$2.00 to	\$3.00
Minor injuries (first dressing) home or hospital	4.00 to	5.00
Minor injuries (first dressing) night (9 p. m. to 6:30 a. m.)	6.00 to	7.00
Subsequent treatment at office	1.50 to	2.00
Hospital visit		2.00
House call		3.00
Administration of anesthetic by physician (minor operation)		5.00
Administration of anesthetic by physician (major operation)		10.00
Assistant to surgeon (physician) major operation		10.00
Removal foreign body eye (ordinary)	2.00 to	3.00
Suturing small cuts or lacerations at office		5.00
Injection antitetanic serum (including cost of serum)		5.00
Plaster casts (including material and depending on location)	5.00 to	50.00
Wasserman examination		5.00
Blood examination		5.00
Urinalysis (chemical)		2.00
Urinalysis (microscopical and chemical)		5.00

SPECIAL OPERATIONS

Laparotomy—Minimum fee with after care.....\$100.00

NOTE.—On account of the vast difference in such cases, claim for services rendered should be based on special correspondence.

Herniotomy—single (including after care)	75.00
Herniotomy—double (including after care)	100.00
Tendon suture	25.00
Reducing hernia by taxis and after care	5.00

DISLOCATIONS

Flat rate, including reduction and subsequent treatment.

In case of more than one dislocation, the fee shall be the major one plus an additional 50% of the fee prescribed for each of the others herein classified.

Shoulder	\$35.00
Clavicle	\$35.00 to 50.00
Elbow	35.00 to 50.00
Hip	50.00
Knee	50.00
Patella	5.00
Ankle	25.00
Finger	10.00
(With 50% additional for more than one.)	
Toe	5.00
(With 50% additional for more than one.)	
Lower jaw	10.00

FRACTURES

Flat fee, including reduction and subsequent treatment.

In a case where multiple fractures occur the fee shall be the major plus an additional 50% of the fee prescribed for each of the others as herein classified.

Humerus	\$75.00
One bone of the forearm	\$35.00 to 50.00
Both bones of the forearm	50.00 to 75.00
Carpal bones, one or more	15.00
Femur	100.00
Tibia	50.00
Fibula	25.00
Tibia and fibula	75.00
Patella, with operation	100.00
Patella, without operation	50.00

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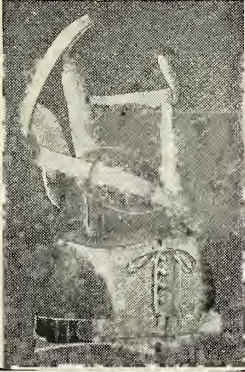
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Os calcis	30.00	Cauterization of corneal ulcer (chemical)	5.00
Astragalus	30.00	Cauterization of corneal ulcer (thermal)	10.00
Tarsal other than os calcis or astragalus	15.00	Laceration of lids or conjunctiva requiring suturing	10.00
Rib—single or multiple	10.00	Extraction of foreign body from inside the eyeball with or without magnet	\$50.00 to 75.00
Nasal bones	10.00	Treatment extensive burn of the cornea (initial treatment)	5.00 to 10.00
Phalanx, metatarsal or metacarpal	15.00	Penetrating wounds:	
(With 50% additional for additional fractures)		(a) Not requiring surgical interference	10.00
Pelvis—a proportionate fee on the above basis will be determined according to conditions present.		(b) Requiring surgical interference (e. g., lacerated cornea with prolapsed iris requiring iridectomy)	50.00
Coccyx, without operation	10.00	Enucleation of eyeball (flat rate including after care):	
Coccyx, with operation	50.00	(a) Simple enucleation	\$50.00
Lower jaw (not including dental work)	40.00	(b) Implantation operation	75.00
Upper jaw—nonoperative	15.00	Plastic operation on lids	\$50.00 to 100.00
Upper jaw—operative fee determined according to conditions.		Extraction of traumatic cataract (flat rate including after care)	100.00
Clavicle	50.00	Dissection of capsule (flat rate including after care)	50.00
Scapula	\$20.00 to 40.00	Operation on pterygium (flat rate including after care)	25.00
Skull, operative	100.00	Consultation	10.00
Skull, nonoperative	25.00	Complete ophthalmological examination and report	10.00
Vertebrae—minimum	50.00	Complete ophthalmological examination and report for court purposes and only upon order of the Commission	25.00

NOTE.—On account of vast differences in such cases, claims for additional services should be based on special correspondence.
Compound fracture—an additional charge of 50% may be added in infected compound fractures.

Wiring or plating—an additional charge of 50% may be added when it is necessary to perform open operation. This is not in addition to amount allowed for compound fractures.

In unoperated complicated fractures in which union is not taking place within ninety days, an additional charge may be allowed at the discretion of the Commissioner of Workmen's Compensation.

AMPUTATIONS

Flat rate including amputation and subsequent treatments.

NOTE.—The minimum fee in the items under this section are intended to be applied in those cases where the injuries were so serious that death resulted within one week following the operation. The maximum and intermediate fees are intended to cover more extended subsequent attention.

In case of more than one amputation, the fee shall be the major plus 50% of each of the others herein classified.

Hip	\$100.00 to \$150.00
Leg, at knee or above	75.00 to 125.00
Foot, ankle or below knee	50.00 to 75.00
Arm, at shoulder joint	75.00 to 100.00
Hand, wrist, forearm or arm	50.00 to 75.00
One toe or finger	25.00

(With 50% additional fee for more than one.)

FEE SCHEDULE OF PHYSICIANS SPECIALIZING IN

DISEASES OF THE EYE

NOTE.—These fees will be approved only to physicians of recognized standing whose practice is strictly limited to eye, ear, nose and throat work.

Foreign body of cornea and sclera:

(a) Attached to cornea or sclera but not imbedded	\$3.00
(b) Simple imbedded	3.00
(c) Difficult or complicated—including cases requiring use of magnet	\$5.00 to 15.00

RULES ON X-RAY

X-ray examination may be made upon request of the attending physician in any case where it can be clearly shown that such an examination is essential in the diagnosis or treatment of an industrial case.

A fee of from \$5 to \$20 will be allowed for x-ray examination and a fee of \$5 for subsequent examinations if such are necessary.

NEW BOOKS RECEIVED

THE HUMAN FOOT, Its Evolution, Physiology, and Functional Disorders—by Dr. Dudley J. Morton, associate professor of anatomy, College of Physicians and Surgeons, Columbia University, New York. Published by the Columbia University Press at \$3.00 per copy.

RUSSELL A. HIBBS, Pioneer in Orthopedic Surgery—by Dr. George M. Goodwin, Published by the Columbia University Press at \$2.00 per copy.

TREATMENT BY DIET—By Dr. Clifford J. Barborka, department of medicine Northwestern University Medical School, Chicago, Published by J. B. Lippincott Company, Philadelphia, at \$5.00 per copy.

BEHAVIOR DEVELOPMENT IN INFANTS—By Dr. Evelyn Dewey, Published by the Columbia University Press at \$3.50 per copy.

THE 1935 YEARBOOK OF GENERAL MEDICINE—By Dr. George F. Dick, University of Chicago; Dr. Lawrason Brown, Trudeau Sanatorium, New York;

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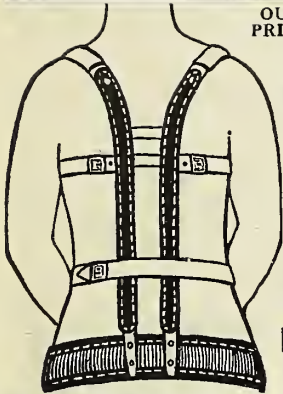
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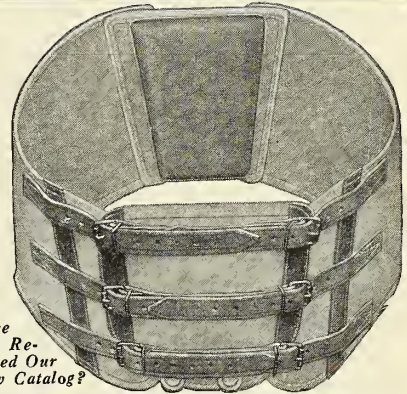
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volumes, a drawing room where guests may entertain, recreation and game rooms, a roof garden, venetian blinds, large outdoor exercise facilities, private baths and lavatories, and other features play their part in this new, modern neurological hospitalization.

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For Further Information Address the Medical Director

Dr. George R. Minot, Harvard University; Dr. William B. Castle, Harvard University; Dr. William B. Stroud, University of Pennsylvania, School of Medicine; and Dr. B. Eusterman, University of Minnesota. Published by the Yearbook Publishers at \$3.00 per copy.

MORBIDITY REPORT

New communicable disease cases in the state as compared with last month are reported by the Kansas State Board of Health as follows:

Disease	Month ending November 23	Month ending October 19
Scarlet Fever	524	233
Chickenpox	506	107
Mumps	166	119
Pneumonia	136	83
Whooping cough	124	94
Tuberculosis	111	64
Syphilis	103	85
Diphtheria	82	67
Gonorrhea	63	67
Smallpox	36	18
Typhoid Fever	31	34
Measles	24	14
Influenza	23	1
Undulant Fever	15	2
German Measles	13	6
Erysipelas	13	4
Vincent's Angina	9	5
Cancer	8	7
Poliomyelitis	7	6
Malaria	4	4
Meningitis	4	4
Encephalitis	4	2
Pink-eye	3	2
Tetanus	1	2

COUNTY SOCIETIES

The Anderson County Medical Society held a meeting in Kincaid on November 13 with Dr. B. Landis Elliott, Kansas City, Missouri, as the guest speaker. His subject was entitled "Encephalitis."

Members of the Atchison County Medical Society met for their monthly meeting on November 12 in Atchison in Dr. E. J. Bribach's office.

The Bourbon County Medical Society has adopted the plan for serving WPA workers and giving medical advice and attention to the workers and their families, which will go into effect on December 1.

The following officers were elected to serve in the Brown County Medical Society for 1936: Dr. W. G. Emery, Hiawatha, president; Dr. H. J. Deaver, Sabetha, vice-president; Dr. R. W. Wyatt, Morrill, secretary; Dr. R. T. Nichols, Hiawatha, treasurer; and Dr. E. J. Leigh, Hiawatha, censor.

Dr. E. R. Gelvin and J. M. Porter, Concordia, were the guest speakers at a meeting of the Clay County Medical Society held in Clay Center on November 13.

Dr. Gelvin showed a film of a Caesarian operation and Dr. Porter spoke on "Heart Disease."

Members of the Franklin County Medical Society met on November 8 with the county commissioners to discuss phases of The Kansas Medical Society Plan. Dr. W. J. Scott was appointed as county health officer. Dr. W. L. Jacobus, Sr., Ottawa, was elected president for 1936; Dr. L. V. Dawson, Ottawa, vice-president; and Dr. G. W. Davis, Ottawa, secretary-treasurer.

Physicians of the Marion County Medical Society were hosts to members from Harvey and McPherson county societies at a dinner-meeting in Hillsboro November 8. Dr. Paul S. Stookey, Kansas City, spoke on "Immunization and the use of Anti-serum in Scarlet Fever," and Dr. Louis J. Scrapellino, Kansas City, spoke on "Staphylococcic Toxins," and illustrated his talk with slides.

Mr. R. L. Laybourn, state laboratory, Topeka, was the guest speaker at a meeting of the Montgomery County Medical Society held in Independence on November 15.

The Pottawatomie County Medical Society held their October dinner meeting in Westmoreland. Twelve doctors were present at the meeting.

A dinner meeting of the Pratt County Medical Society was held on October 27 in Pratt and Dr. A. E. Bence, Wichita, was the guest speaker. He gave a lantern slide illustrated lecture on "Fractures of the Elbow."

Dr. O. W. Davidson, and Dr. Clarence Gripkey, Kansas City, presented papers before the Saline County Medical Society at a meeting on November 20 in Salina. The topics were, respectively, "Viscero-Renal Reflexes" and "The Thyroid Patient."

Members of the Sedgwick County Medical Society held a meeting in Wichita on November 5 with Dr. C. A. Hellwig, Wichita, as the principal speaker.

Dr. L. A. Calkins, University of Kansas School of Medicine, was the guest speaker at a meeting of the Shawnee County Medical Society held on November 4 in Topeka. His subject was "The Management of Occipito-Posterior Presentation." At the November 14 meeting, Dr. Leonard G. Herrington, Kansas City, spoke on "Why We Need Mental Health." Dr. Irving S. Cutter, Northwestern University Medical School, Chicago, Illinois, spoke on "The Physician and the Public," at the December 2 meeting.

The Sumner County Medical Society held a dinner meeting in Wellington on November 21. The program was as follows: "Backache," Dr. Charles Rombold, Wichita; "Management of Cross Eyes in Children," Dr. M. E. Brownell, Wichita; "Haematuria," Dr. A. R. Hatcher, Wellington; "Venereal Disease Control," Dr. H. L. Sarchet, Wellington.

The Wilson County Medical Society held a meeting in Neodesha on November 18. Officers were elected for 1936 as follows: Dr. J. W. McGuire, Neodesha, president; Dr. H. E. Morgan, Fredonia, vice-president; and Dr. E. C. Duncan, Fredonia, secretary-treasurer.

Dr. A. A. Hayden, trustee of the American Medical Association, was the guest speaker at the meeting of the Wyandotte County Medical Society in Kansas City, on November 6. A joint dinner meeting of the society and auxiliary was held on November 19 and the program was a round-table discussion of organized medicine.

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